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Guide **52**

Electronic Capture of Well Test Data

January 1999

Alberta Energy and Utilities Board

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Electronic Capture of Well Test Data

January 1999

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1.0 INTRODUCTION

Well test data[1] in Alberta has been reported to the EUB since 1940, as part of the EUB mandate to provide for the timely and useful dissemination of information. Historically, the EUB has manually transcribed a summary of each test and stored the raw data on microfiche for public access. The pressure test report, EUB Form O-12 "Subsurface Pressure Measurement", was last amended in 1979. Over the years, the service companies enhanced this report to meet the needs of their customers, resulting in a wide variance of reporting formats. However, in the 80's and 90's, technology advanced to electronic gauges, which provided more accurate and comprehensive data. Software programs were soon developed to perform various well test and reservoir analysis functions, which utilized the electronic capabilities of this data.

In this new computerized environment, the processes of converting digital test data to hard (paper) copy reports for storage on microfiche, re-keying summary data into EUB systems, and re-keying thousands of data points for use in analytical programs, became redundant. It was recognized that the submission of digital pressure data would offer considerable advantages to industry, the public, and the EUB.

A joint Industry/EUB committee was formed in 1993, through the Well Test Special Interest Group of the Petroleum Society of the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), to look into the feasibility of preserving well test data electronically. This committee was made up of representatives from the producing industry, the service industry, gauge manufacturers, consultants, and EUB staff. The Committee regrouped in November 1997 to design an electronic system that would meet the needs of all stakeholders, in a manner that was simple to implement, easy to use, and cost effective. It is the intent of the Committee to ensure the new reporting formats are suitable for all users, and will not result in the service companies having to create two separate reports. If multiple reports are created, one for the customer and one for submission to the EUB, many of the benefits of streamlining this process will be lost.

Guide 52 addresses submission of well test data, and automates some of the quality issues, as follows:

- the basic system design and how it works,
- security measures implemented to protect EUB data systems and the confidentiality of data being transmitted,
- an explanation of each PAS format,
- the edits and ranges to ensure data quality,
- the business rules for mandatory or optional elements,
- codes,
- how to set up and test e-mail communications with the EUB, and
- how to prepare and submit files.

All tests must still be conducted under the requirements defined in EUB Guide 40, *"Pressure and Deliverability Testing Oil and Gas Wells"*. It is not the intent of Guide 52 to change any survey requirements or change how you measure temperature, pressure, depth, volumes, etc. Guide 52 only changes how you report the information to the EUB. References to EUB Guide 40 in this document are intended to direct users to the appropriate requirement.

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[1] For the purposes of this guide, "well test data" will refer to bottom-hole pressure testing (by gauge or acoustic devices), deliverability and absolute open flow tests (and related production information), drill stem tests, gas analysis, and fluid analysis.

The Committee has modified the guide and formats over the past 6 months, as we received feedback from the users. All updates are contained in this guide. Due to ongoing changes in the test formats (enhancements are being made as feedback from industry continues), the formats will be included in this guide, but further updates will be available on the EUB website at:

http://www.eub.gov.ab.ca

1.1 Schedule for Implementation

The EUB's intention for requiring the submission of well test data in the PAS format are defined in section 2. Any questions or comments regarding the formats, policies, or requirements should be directed to Doug Giles at 297-4424 or Joanne Petryk at 297-8408. Inquiries regarding problems with electronic submission or certification should be directed to Doug Giles.

The EUB commenced receiving well test data electronically on 1 July 1998, on a voluntary basis. An 8-month implementation phase has been provided for systems development and fine-tuning the electronic formats and procedures for transmission of the data.

A help line is available at:

ecommerce-help@mail-ecx1.eub.gov.ab.ca

2.0 REQUIREMENT

IMPORTANT:

The electronic submission of all well test data (as defined above) will become a requirement on1 March 1999. Hard copy reports will not be accepted after that date.

The current requirements for well testing and reporting in Alberta are found in section 11 of the Oil and Gas Conservation Regulations, and EUB Guide 40, *"Pressure and Deliverability Testing Oil and Gas Wells"*. Guide 40 defines the minimum requirements and recommended practices for pressure and deliverability testing. Any reference in Guide 40 to reporting and submission of tests will be updated to reflect electronic reporting in the coming revision, slated for March 1999. Interim Directive 98-4 provides the necessary authority until the new Guide 40 is issued.

Current regulations concerning confidentiality of information will apply to all data submitted in electronic format. See section 16.2 on security for more information.

Guide 52 only addresses submission of well test data, and automates some of the quality checks. All tests must still be conducted under the requirements defined in EUB Guide 40. It is not the intent of Guide 52 to change any survey requirements or change how you measure temperature, pressure, depth, etc. Guide 52 only changes how you report the information to the EUB. References to EUB Guide 40 in this document are intended to direct users to the appropriate requirement.

3.0 GUIDING CONCEPTS

The Committee defined the requirements of a system for electronic capture of well test data as follows:

- **Keep it Simple and User Friendly:** the system must be easy to use by large companies, and one/two man companies who do not have systems development resources.
- **Acceptable Standards:** the system must use well test standards that are recognized and accepted within the industry.
- **Available and Affordable:** to avoid large expenditures, the system must be provided with existing resources wherever possible. The Committee tried to determine the lowest common denominator for companies of all sizes. What does every company have in their office that could be utilized to provide this system?
- **Compatibility with EUB Legacy Databases:** the system must be able to automatically update the EUB mainframe databases, eliminate keying, and microfilm processes.
- **Data Quality:** the system must maintain control to ensure the quality of the data being submitting and loaded into EUB databases.
- **Non-proprietorial:** the system cannot be dependent upon any particular software system or version.
- **Longevity:** the system must ensure the data can be accessed in the future, 10 or 20 years' time.
- **Security:** the system must be able to protect the security/confidentiality of the data.
- **Flexibility:** the file format had to be widely acceptable. Many of Alberta's producing, service, and consulting companies operate internationally. The data gathered during these tests and the reporting formats accepted by the EUB were also acceptable to other provinces, agencies, and international bodies. The software programs were developed to handle all well test data regardless of where the data originated. The new system would have to provide the data in a format that could be recognized and used internationally in a wide number of applications and programs.
- **Graphics:** electronic conversion of plots, charts, graphs and dialogue. This information is critical to a test and the system must provide the ability to recreate all pages of text, plots, and diagrams.

4.0 DESIGNING THE SYSTEM

Once the requirements were defined, the Committee gathered information to determine how to best meet the requirements.

4.1 Setting Standards

To determine what standards had already been set in industry and how they could be utilized in this system, the following organizations were contacted:

- the Well Operating Data Exchange (WODEX),
- the Petrotechnical Open Software Corporation (POSC),
- the American Petroleum Institute (API),
- the Canadian Well Logging Society (CWLS),
- the Canadian Association of Petroleum Producer's Electronic Data Interchange Committee (CAPP), and
- Public Petroleum Data Model (PPDM).

PPDM, a Calgary-based organization, had a vision of standardizing electronic data capture for all areas of operations that could be used in a common database. They were in the development stages of this project and had started defining elements for drill stem tests.

POSC, a United States-based organization, shared a similar vision with PPDM; to standardize electronic reporting and capture all aspects of operations. Discussions and negotiations began between these two organizations, to explore the possibilities of a merger, or at least to ensure co-ordination of all standards between the two groups. The Committee worked with both of these groups to utilize the standards they had set, and to develop acceptable standards where necessary.

CWLS had developed the Log ASCII Standard (LAS) for electronic capture and reporting of well logs. The LAS formats were in production and provided the flexibility and longevity required, and were compatible with EUB legacy systems. ASCII files are also compatible with a wide variety of software programs, which also addressed the proprietary concerns. The Committee agreed to a derivation of the LAS format, adapted to well test needs and incorporating standards consistent with PPDM and POSC. Development began on the PAS format.

4.2 Acceptability

Addressing the question of acceptability by other regulatory bodies sparked discussions to share our vision and theirs, and seek to find a common ground for the future. The following agencies participated in these discussions:

- the Province of British Columbia, Ministry of Energy, Mines and Petroleum Resources,
- the Province of Saskatchewan, Energy and Mines Division,
- the Province of Manitoba, Department of Energy and Mines, Petroleum Branch,
- the Canada-Newfoundland Offshore Petroleum Board,
- the Province of Ontario, Energy & Mines Division, and
- the National Energy Board.

Most of these organizations were looking at the same concerns for the future, but at that point had not embarked on any new development in this area. We continue to share our progress with them.

4.3 Security

To address the security issues, the technology available was reviewed. It appeared that encrypted e-mail would provide the most simplistic yet secure medium for transmission of the files. Once the data was received at the EUB, the infrastructure would provide the firewalls and systems to protect the security/confidentiality of the data. More information on security is found in section 16.2.

4.4 Quality Control

It was determined that the requirements for quality control could best be addressed by providing a certification or validation program that would ensure all the key specifications from the PAS format were adhered to. Although this system was originally planned for submission on diskettes, it soon became evident that this medium provides a series of problems in handling diskettes and the inability to certify a file using the EUB's database for reference resulting in a lack of cost benefit. Further development of this program resulted in modifications to the certify program to check key mandatory elements (ie. unique well identifier [UWI]), license number, and valid test dates) against the EUB database. For this purpose, a separate e-mail address has been set up so that your files can be certified prior to submission. You will receive a message advising if the file passed certification, or listing problems that need to be rectified in order to pass certification. In addition, edits have been set within the EUB systems for many of the parameters, to reduce input errors and improve the integrity of the data. Refer to sections 16 and 17 for more information on certifying your file. Details on edits and ranges are found in section 5.5 and with each individual format.

4.5 Availability, Affordability, and Simplicity

Concerns regarding availability, affordability, and simplicity were considered in conjunction with a number of other issues. The Committee searched for the lowest common denominator for companies of all sizes. What did every company have in their office and how could it be utilized to provide a system that meets the requirements, at a low cost?

Throughout this guide we will strive to provide information on various ways to generate these files, with a minimum of effort and cost. Like any change of this magnitude, there will be some growing pains and frustration. Feel free to contact our help line at:

ecommerce-help@mail-ecx1.eub.gov.ab.ca

4.6 Graphics

The electronic conversion of charts and graphs posed serious problems. To develop a system with the ability to recreate every plot, chart, or graph possible now and in the future would require a very sophisticated and expensive set-up. Such a system would also be very costly to maintain. It was concluded that the importance of this information was for viewing, and therefore an imaged file would suffice. Therefore, this requirement could be fulfilled with a TIFF file, which could be generated in a number of ways with today's technology. Any other information pertinent to a test not covered in the PAS format could also be included in the imaged file. See each PAS format and section 16.6 for more information on creating TIFF files.

5.0 FORMATS - GENERAL INFORMATION

Once the requirements were set the Committee determined what data elements were required and defined the standardized reporting formats. Included in the next sections are the PAS formats for each test type developed by the Committee, complete with codes, edits, ranges, and explanations.

The actual formats are found under each section and examples are available in the Attachments to this guide. However, these formats are updated as feedback from industry continues. The most recent version of these formats, templates, and examples are available electronically on the EUB's website at:

http://www.eub.gov.ab.ca

5.1 Format Development

In defining the size and characteristics of each element, the Committee tried to follow standards set by PPDM wherever possible. However. PPDM standards are set for international use and measurement, and often exceed what is required in Alberta for metric measurement, and what is acceptable in EUB databases. In an effort to ensure the reporting formats designed could be used internationally, the PPDM standards were chosen, with the EUB controlling the values of the elements by implementing acceptable ranges for Alberta. Those ranges and the edits to ensure the values reported are within those ranges will be specified under each individual format.

5.2 Codes

The codes required for each specific format are found in the section under that particular format (except for the fluid codes and Service Company codes). A complete list of all codes is available in Appendix B. The service company code list contains a number of companies and codes that no longer exist. These codes are still in use on the EUB's historical database, and therefore must be maintained on the current code list. Please contact Joanne Petryk at 297-8408 or Doug Giles at 297-4424 if you find any discrepancies, or to obtain a new company code.

5.3 Mandatory/Optional Elements

The Committee tried to provide elements for all information that might be gathered during each type of test. Each element will be coded as:

M - Mandatory,
O - Optional, or
MO - Mandatory/Optional

IMPORTANT:

"Optional" elements are not "unnecessary". Where the information is pertinent to the test, it is important and necessary. "Optional" simply means that a certain condition or circumstance may exist that would make this data unavailable. The expectation is that optional elements will contain values wherever possible.

5.3.1 Mandatory:

These are elements that have been deemed necessary by the Committee to

- update EUB systems,
- provide necessary information to ensure the test can be matched to the correct UWI, or
- information necessary to determine the quality of a test.

Tests will not be accepted without values in all mandatory elements.

5.3.2 Optional:

Many of the elements are provided for information that may not always be present or reported on every test. To ensure these tests will not be rejected, these elements must be optional and may or may not contain values. Also included in this category are elements for information that may be important but may under certain circumstances not be available. It is hoped that the information will be included wherever possible, although the test will be accepted without this data.

Our efforts to keep edits to a minimum have resulted in many optional elements, even though the information is important. This will be tested over the next few months. If we find that important information is being omitted from the reporting formats, more stringent formats and edits may be necessary. When completing these formats, keep in mind what information you would require to make a major decision based on a test purchasesd from the EUB.

5.3.3 Mandatory/Optional:

Some elements are optional unless specific conditions exist.

Elements with Mandatory/Optional (MO) status listed on the PAS formats will be addressed in the section dealing with that particular PAS format. The format for these details is:

SECTION NAME [MNEM] (definition) is mandatory if SECTION NAME [MNEM] (definition) = "X"

5.4 Units

In previous submissions, some test elements were submitted in KB, others in CF, some in TVD and some not, depending upon the individual company format. The following measurements have been standardized for PAS files:

- All depths in meters KB @ true vertical depth (TVD), except DSTs.
- All pressures in kPa absolute (the EUB uses 93 to convert to absolute).
- All temperatures in degrees Celsius (can be positive or negative).
- All gas rates in thousands of cubic meters E^3M^3/day.
- All oil and water rates in cubic meters M^3/day.

5.5 Ranges

For the purpose of these formats, acceptable ranges have been set for a number of elements (depths, pressures, temperatures, etc.) to minimize errors and improve data quality. These ranges apply to all of these elements appearing throughout the formats unless otherwise specified. By setting these ranges, the PPDM standards have been converted for metric reporting to EUB systems.

Here are the generic ranges that have been set for PAS elements. For elements that are input to EUB databases. Where more decimal places have been submitted, the EUB program will round off to the appropriate decimal place while uploading to these systems. However, the number of decimal places indicated here do not apply to raw data points, which generally provide for greater resolution, as indicated on the various formats:

All Depths must be less than	7,000.00 M	rounded to 2 decimals
All Pressures must be less than	99,999.00 kPa	rounded to whole number
All Temperatures must be between	-100 and 1,000°C	rounded to whole number
All Times must be less than (except for DSTs which are reported in minutes, and raw data as indicated above)	100,000.0 H	rounded to 1 decimal
All gas production rates must be less than	100,000.00 E^3M^3/day	rounded to 2 decimals
All oil and water rates must be less than	100,000.00 M^3/day	rounded to 2 decimals

5.6 Edits

Some edits are considered critical; meaning the test will be rejected if these conditions are not met. Other edits are non-critical and will not result in the test being rejected, but will be reviewed on an audit basis.

5.6.1 Critical Edits

IMPORTANT:

Files not meeting critical edits will be rejected immediately.

The following critical edits are present in the EUB system for all submissions.

- Files must contain a PAS file and a TIFF file ONLY (any other data included in the submission will be considered a possible breach of security, resulting in rejection of the submission and immediate termination of communication with the EUB). Communications can be re-established once the problem has been investigated and resolved to the EUB's satisfaction. (See section 16 for further information.)

- All data in the file must be readable in the current version PAS format.

- All mandatory elements must contain values (mandatory/optional edits will be listed separately for each test type).

5.6.1.1 Critical Edits for Transient Analysis

The PAS file for a transient pressure test must include analysis, or the raw data must reflect a stabilized reservoir pressure. Files not passing these edits will be rejected, with a message indicating that analysis is required.

The Committee considered the merits of submitting the raw data of a test, with the intent of submitting the analysis later. This process was discarded due to the problems that were identified; from using logic based on information from different files, to tests being deemed as not fulfilling requirements if both tests were not submitted on the same day, to storing duplicates of the raw data.

- **The following are the critical edits to determine if analysis is present for AWS and TRG tests:**

  If TEST DATA [TTYP] (test type) = "04", "05", "06", "08", "11" or "12", and
  TEST DATA [PRPS] (test purpose) = "Y",

  then ANALYSIS – GENERAL INFORMATION [PAVG]
  (representative average reservoir pressure) must be > "0.0" or

  ANALYSIS – GENERAL INFORMATION [PEXTR]
  (representative extrapolated pressure) must be > "0.0"

  (Note: [PAVG] is the more reliable estimate of actual reservoir pressure and is to be used wherever possible. It was necessary to accept [PEXTR] to accommodate initial pressure tests, and tests where the difference between the last measured/calculated pressure and the extrapolated pressure is very small. Be careful with the use of [PEXTR], especially in situations where a minimum operating pressure (MOP) exists. If the last measured/calculated pressure is below MOP, [PEXTR] is not acceptable to indicate the pressure is above MOP. You may be asked to shut-in your well until a test clearly indicates a pressure above MOP.)

OR

- The following is the process used by the EUB system to determine if a stabilized reservoir pressure has been reached:

  - Get the values reported as:
    RESULTS SUMMARY [PMPP] (representative bottomhole pressure at MPP) for AWS tests, or
    RESULTS SUMMARY [PRGA] (last measured or representative pressure at stop depth) for TRG tests.

- Match these values to the acoustic data table, or the gauge 1 (source gauge) data table.
- The difference in pressure over the 6 hours prior to this value must be equal to or less than 12 kPa (2 kPa per hour as defined in section 5.1 of Guide 40).
- If a pressure reading cannot be found at the 6-hour interval prior to [PMPP] or [PRGA], the edit will look for the next previous reading and determine if the 2 kPa/hr limit has been met.

IMPORTANT:

If this program cannot match the exact value reported in RESULTS SUMMARY [PMPP] or [PRGA] to a pressure point in the raw data table (from source gauge), the file will be rejected.

5.6.1.2 Critical Edits for Analysis in DSTs

Since the length of DSTs does not allow the 6-hour check for pressure stability, all DSTs submitted to fulfil a pressure survey requirement must have analysis. Therefore:

If TEST DATA [PRPS] (test purpose) = “Y”, then

ANALYSIS – GENERAL INFORMATION [PEXTR] (representative extrapolated pressure) must be => TEST SUMMARY DATA [PRGA] (pressure at stop depth)

If the pressure did stabilize during a DST, report the stabilized pressure in [PEXTR].

5.6.2 Non-Critical Edits

All non-critical edits are pertinent to each individual test and are addressed in that section of the guide.

5.6.2.2 Edits for Duplicate Tests

EUB systems do not accept duplicate tests. The edits to determine if a test has already been received and stored are:

- UWI
- Test type
- Test date
- Purpose flag

Duplicate check for DSTs also includes the DST Number. For DSTs it is acceptable to submit a test as a DST, with the propose flag = “N”, then resubmit later with the flag = “Y”. The reverse is not acceptable.

5.7 TIFF File Edits

TIFF files are required for all TRG, DST files, and AWS transient tests. The EUB will conduct a critical edit and files not meeting this criterion will be rejected. The sections dealing with each specific format will also address what should be included in a TIFF file that would be attached to that PAS file. Please do not duplicate information in the TIFF file that is already included in the PAS file. The TIFF file is intended for charts, graphs, dialogue, and information that is not included in the PAS file. The contents of a TIFF file will not be edited by the system, but will be randomly audited by EUB Well Test Staff.

IMPORTANT:

TIFF files must contain only images pertinent to the well test. Any submissions containing unrelated images may jeopardize communications link with the EUB. The EUB makes this data available to the public, and is responsible for integrity of the data.

5.8 Helpful Hints

The following are some hints you may find helpful in understanding how the files work:

- **Comment lines** can be added at any place, in any format, by starting each line with the pound sign (#), therefore, each line of a multi-line comment must begin with the pound sign (#). Be careful not to use this sign for other purposes.
- **The use of commas** must be limited to comment lines only (starting with #). This is a "comma separated value" file, and the use of commas for other purposes will be interpreted as a field break and will cause a certification error.
- **Unknown values** are indicated by null or by having nothing between the two comma delimiters. All fields and rows must be present in the PAS file even if there is no data. **Do not** make up data, or use maximum values to enter in these elements, as this will only skew the data for programs accessing this data.
- **Unknown information** submitted anywhere in a file (ie some new category or data of any kind) will result in the file being rejected.
- **Raw Data Tables and Headers** (other than source gauges) can be omitted if no other gauges recorded.
- **[CHAR]** definition for any element is an alpha-numeric field and will accept either characters or numbers.
- **TIFF** files must contain **only** images pertinent to the well test. Any submissions containing unrelated images may jeopardize the senders communications link with the EUB. Remember – the EUB makes this data available to the public, and is responsible for data integrity.
- **Error Return File** was requested to increase the size of the columns for clarity. This request has been accommodated, but the message will now have to be printed in landscape to be readable. The use of non true-type fonts (Courier) will also enhance these messages.

- **Who submits the PAS files?** The EUB is not concerned with who actually submits the files. That decision lies within the customer client relationship. However, it is important to remember that the licensee will always be held responsible, although the sender will receive the e-mail message regarding EUB acceptance or rejection of the file.

- **Who is the service company**, when a wireline runs the gauges, a different company prepares the gauge report and a consultant performs the transient analysis and submits the PAS file? This element will not be edited by the EUB, as any discrepancies will be followed up with the licensee. However, to ensure the licensee has all the information pertaining to which companies were used, extra company names and functions can always be added with a comment line. There is already a mnemonic for [SERCO] (service company name), and [ANCO] (company conducting analysis).

- **Mechanical recorders** run should also be included in the PAS file; even if they were run as backup for electronic recorders. If the data from these gauges is read and reported on a computerized report, then it can be converted to PAS as well. A handful of data points would be sufficient. HEADER DATA GAUGE (n) [GTYP] (gauge type), or a comment line (#) can be used to indicate mechanical data.

- **Comment and Name elements** have been increased in size.

- **Temperatures** all accommodate negative and positive readings.

- **Decimals** and at least one digit (even if that digit is zero) must be reported for all numeric fields defined with decimals.

  For example: TEST DATA [TTOPL] (test top at log depth) is defined as [NUMB 10,5]

  That means that you can have up to five digits, a decimal, then five more digits. However, if you are reporting a whole number, you still need to use the decimal and insert a zero after the decimal. It would appear as 3499.0. Zeros are not necessary as fillers to precede whole numbers.

- **Underbalanced drilling** data intended as an initial deliverability test should be reported on the AOF format. Any additional information or conditions should be included in the report either as comments (lines starting with #), or in the TIFF file. Do not confuse the well test reporting requirements with reporting that might be required by EUB Facilities or Well Records departments.

6.0 FORMATS – GENERAL DEFINITION

The test formats have been set up in sections by logical process, where a specific work group or company would likely provide the data for that section. The order of these sections is key and our application was designed on this basis. All files must be submitted in this order to pass certification.

Likewise, a row for each mnemonic must appear in the file, in the specified order, whether or not data exists for that field, and whether the field is optional or mandatory. Optional elements where there is no data, will be indicated with no values between the commas. This is to ensure file consistency when a reader uses basic tools such as a spreadsheet or a word processor to read the file. Unlike the mnemonics, raw data tables can be omitted in certain circumstances. This is addressed under each individual test type

Always make sure the data you believe is the most representative is reported in the test summaries, and corresponds to the gauge data reported under GAUGE1 (source gauge). The gauge numbers represented in GAUGE (n) are **not** intended to indicate the sequence of gauges in the run.

You are expected to include the description of the data in the last field of each line. The rationale is that if the file is opened for hands-on viewing, the contents can be understood without the use of proprietary software. It is okay to strip out the field properties (ie [NUM 5.5:M], etc.), but the descriptions are to be left in tact.

The first two sections are fairly consistent throughout all formats and are addressed below, but will also be included under each applicable format. The other sections pertinent to a particular test type will only be addressed under that specific format.

6.1 Well Information Section

The first section for all formats is the basic WELL INFORMATION section and it is fairly consistent for each test type, without providing information unnecessary to a particular type of test. This section identifies the well being tested; UWI, license number, licensee, well status, type of well drilled, formation, type of completion, and flow regime.

- **WELL INFORMATION [FORM] (formation name)** is not intended for EUB pool codes or for pool names. It is a free text field to input a text version of the formation name (ie. Cardium, Viking, Keg River, etc.). These names often differ from the EUB pool definition, but will not be edited. The data will be used to assist the EUB in linking the test to the correct pool. However, using the correct unique well identifier will be the key in this link.

6.1.1 Codes

WELL INFORMATION [WSFL] (Well Fluid Status), [WSMO] (Well Mode Status), and [WSTY] (Well Type Status) revised code list follows:

FLUID [WSFL]

- 01 - Crude Oil
- 02 - Gas
- ~~03 - Oil~~
- ~~04 - Gas/Water~~
- 05 - Undesignated
- 06 - Water
- 07 - Brine
- 08 - Waste
- 09 - Solvent
- 10 - Steam
- 11 - Air
- ~~12 - Synthetic Crude~~
- 13 - Carbon Dioxide
- ~~14 - Polymer~~
- 15 - Nitrogen
- 16 - Liquid Petroleum Gas
- 17 - Crude Bitumen
- 20 - Acid Gas

MODE [WSMO]

- 00 – Not Applicable *
- 01 - Suspended
- 02 - Abandoned
- 03 - Abandoned Zone
- 04 - Abandoned/Re-entered
- 05 - Capped
- ~~06 - Potential~~
- 07 – Standing (Drilled & Cased)
- 08 - Junked & Abandoned
- ~~09 - Closed (by Board Order)~~
- 10 - Flowing
- 11 - Pumping
- 12 - Gas Lift
- ~~13 - Testing~~
- 14 - Abandoned & Whipstocked

TYPE [WSTY]

- 00 – Not Applicable **
- ~~01 - Reproducer~~
- 02 - Storage
- 03 - Injection
- 04 - Disposal
- 05 - Observation
- 06 - Training
- ~~07 - Experimental~~
- 08 - Farm
- 09 - Industrial
- 10 - Cyclical
- 11 - Source
- 12 - SW Steam Assisted Gravity Drain

A number of codes have been deemed inappropriate for use in this purpose.

Do not use codes with ~~strikethrough~~

* [WSMO] - "00" has been added as an acceptable code for cases where a well would not have a mode (ie some water injectors).

** [WSTY] - "00" has been added to the acceptable codes for cases that do not have a specific code listed. Many producing wells will use this code.

[WSFL] (well fluid status) for a well that has not produced yet, use the code for the dominant fluid you expect to recover (is it most likely to be an oil or a gas well). This code is required for use in EUB programs, but will not be edited against actual fluid production, only to ensure it is a valid code.

6.1.2 Mandatory/Optional

All elements with Mandatory/Optional (MO) status listed on the PAS formats will be addressed in the section dealing with that particular PAS format. The format for these details is:

SECTION NAME [MNEM] (definition) is mandatory if SECTION NAME [MNEM] (definition) = "X"

The generic MO elements in the WELL INFORMATION SECTION of the various formats are:

- WELL INFORMATION [HLID] (hole size) is mandatory if WELL INFORMATION [OHCI] (open hole completion indicator) = "Y"
- WELL INFORMATION [CSLD] (depth at which casing is landed) is mandatory if WELL INFORMATION [OHCI] (open hole completion indicator) = "Y"

6.1.3 Critical Edits

- WELL INFORMATION [UWI] (unique well identifier) must exist on EUB system (except DST's where the location only must exist on EUB systems). The format for UWI in Alberta is 1XX/99-99-999-99W9/9, according to EUB Guide 19.
- WELL INFORMATION [WLIC] (well license number) must match the license number for this UWI on the EUB system (for this location for DST's). The format for license numbers is X 9999999 X. The alpha characters are only used if reporting a test on an old well with this type of license number. However, using the full license number as above will not cause a file to reject.
- WELL INFORMATION [WTYP] (well type indicator) must = "V", "D", or "H"
- WELL INFORMATION [OHCI] (open hole completion indicator) must = "Y" or "N"
- WELL INFORMATION [LINR] (casing liner indicator) must = "Y" or "N" or be blank
- WELL INFORMATION [AFLO] (tubing or annular flow) must = "T", "A", or "C" or be blank

6.2 Test Data Section

The TEST DATA SECTION will vary slightly from one format to another. This section identifies the actual test conducted: test interval, test type, date, purpose, service company, etc.

- **TEST DATA [PRPS] (test purpose):** The first element in the Test Data section is the purpose of the test. As specified in Guide 40, you are required to submit all tests conducted, even if the test was conducted for your own use. However, tests that are not intended to fulfil any requirements, if marked as such, TEST DATA [PRPS] (test purpose) = "N" will be accepted for information purposes only and will not be edited. They will be checked to ensure the license number matches the unique well identifier (UWI), that the test date is valid, and that all information is readable and all mandatory elements contain valid data.

  Licensees should remember that survey requirements could change from year to year, with development or redesignation of a pool. A pool not qualifying for the annual pressure survey schedule may be added in the following year. To determine when the next survey requirement is due, the EUB system will only recognize "required" tests. Therefore, if a test meets the criterion of a required test, it would be beneficial to flag it as a required test for the EUB's database.

  Example: A pressure survey was conducted on a single well pool last year, although it was not required as per the survey schedule. The survey was submitted as "not required". The pool is now redefined and pooled with another well. The EUB program that identifies the pool for this year's survey schedule, sets the requirement as biennial. However, it will not recognize the survey conducted last year. Therefore, the pool *will require a survey this year instead of next year. If the survey had indicated a "required" test, the pool would not have to be surveyed again until next year.*

- **TEST DATA [TISI] (time well shut-in)** is mandatory for all tests because the data is used by EUB systems to calculate the duration of shut-in and determine if a pressure is stable. This determination is still required for an initial test on a well that has not produced. The 14-day rule from Guide 40 still applies, but was very difficult to administer in the past. Although there is no actual shut-in time for an initial test, the operator does know when the last treatment or disturbance occurred. Use that date and time. For wells that have been shut-in for a long period of time, report the date the well was suspended. Use 1200 noon where the time is not available on suspended wells.

6.2.1 Codes

The following are the codes for the Test Type element [TTYP] for all formats:

[AOFTY]	PAS-AOF	01 - Single Point (simplified analysis) 02 - Multi-Point (simplified analysis) 03 - Theoretical (Lamier-Inertial-Turbulent, LIT) 04 - Incomplete (i.e. "field analysis", "failed attempt")
[TTYP]	PAS-AWS	10 - Acoustic/surface test - Single shot 11 - Acoustic/surface test - Buildup 12 - Acoustic/surface test - Falloff (these codes are to be used for all tests conducted from surface data, where the bottomhole pressure is calculated) Codes "01" and "02" previously included in this list have been eliminated as these codes were originally used in the old gas data base for any tests that were not measured by bottom hole gauge, including acoustics. At that time acoustic codes were not considered necessary as acoustic tests were rarely conducted on gas wells. With the development of the system for tests on oil wells, codes for acoustics were deemed necessary and added to the list. The EUB must maintain the surface codes (01 and 02) for historical tests on the database, but these codes will not be accepted for use with electronic submission.
[DSTTY]	PAS-DST	01 - Bottom Hole 02 - Straddle 07 - Closed Chamber (although closed chamber tests can also be bottom hole or straddle, please use code "07" to indicate all tests run under closed chamber conditions. This is necessary to determine the Mandatory/Optional elements in the closed chamber section.

[TTYP]	PAS-SG	03 - Bottom Hole Static Gradient
[TTYP]	PAS-TRG	04 - Bottom Hole Buildup 05 - Bottom Hole undefined (i.e. segregation, interference) 06 - Bottom Hole Falloff 08 - Pressure Sentry (permanent downhole recorders)

6.2.2 Mandatory/Optional

The only M/O elements in the TEST DATA section of the formats are the Test Top and Test Base at TVD [TTOPT] and [TBAST] in the DST format. See the DST format for details.

6.2.3 Critical Edits

The following are the critical edits that are built into the TEST DATA SECTION for most of the test types. If a test does not meet a critical edit, it will be rejected.

- TEST DATA [PRPS] (test purpose) flag must = "Y" or "N" (except GAN and PRD files)
- TEST DATA [TBASL] (test interval base at log depth) must be > "0.0"
- TEST DATA [TTOPL] (test interval top at log depth) must be > "0.0"
- TEST DATA [TBAST] (test interval base at TVD) must be > "0.0"
- TEST DATA [TTOPT] (test interval top at TVD) must be > "0.0"
- TEST DATA [TBASL] (test interval base at log depth) must be > than [TTOPL]
- TEST DATA [TBAST] (test interval base at TVD) must be > than [TTOPT]
- TEST DATA [FTDT] (final test date) must be >spud date and < = current date or abandoned date

6.3 Results Summary

The third section for most of the formats is a summary of the results of the test, and includes the elements required for updating EUB systems. These summaries vary for each test type and are addressed under each specific format, as are the remainder of the sections in each format.

7.0 ABSOLUTE OPEN FLOW TEST FORMAT (AOF)

This format is to be used to summarize the results of the deliverability, production, and pressure data. An AOF submission should generally be accompanied by a PRD file and a pressure test.

7.1 AOF General Information

- TEST DATA [VGAS] (gas produced in cleanup and/or test) is to report volumes "produced" only during this test and cleanup if applicable. Do not include volumes previously produced from this well.
- Report all information and the source used, to determine the AOF in this format.

7.2 AOF Mandatory/Optional

WELL INFORMATION SECTION:

- [HLID] (hole diameter in millimetres) is mandatory if [OHCI] (open hole indicator) = "Y"
- [CSLD] (casing landed at depth) is mandatory if [OHCI] (open hole indicator) = "Y"
- [LINR] (casing liner indicator) is mandatory if [OHCI] (open hole indicator) = "Y"

RESULTS SUMMARY SECTION:

- [PFSF] (stabilized flowing sandface pressure) is mandatory if [AOFSF] (stabilized sandface AOF) > "0.0"
- [PFWH] (stabilized flowing wellhead pressure) is mandatory if [AOFWH] (stabilized wellhead AOF) > "0"
- [METHC] (comment re sandface pressure) is mandatory if [PFSF] (stabilized flowing sandface pressure) > "0.0"
- [AOFSF] (stabilized sandface AOF) is mandatory if [AOFWH] (stabilized wellhead AOF) is blank
- [NSF] (inverse slope at sandface) is mandatory if [AOFSF] (stabilized sandface AOF) > "0.0"
- [AOFWH] (stabilized wellhead AOF) is mandatory if [AOFSF] (stabilized sandface AOF) is blank
- [NWH] (inverse slope at wellhead) is mandatory if [AOFWH] (stabilized wellhead AOF) is > "0.0"

7.3 Codes for AOF Tests

See section 6.1.1 or Appendix C for codes for WELL INFORMATION [WSFL] (Well Fluid Status), [WSMO] (Mode Status), and [WSTY] (Type Status).

Acceptable values for TEST DATA [AOFTY] (test type) for AOF tests are:

01 - Single Point	(simplified analysis)
02 - Multi-Point	(simplified analysis)
03 - Theoretical	(Laminar-Inertial-Turbulent. LIT)
04 - Incomplete	(i.e. "field analysis", "failed attempt")

See Appendix D for TEST DATA [SERCO] (service company codes).

7.4 Critical Edits for AOF Tests

Here are the generic ranges that have been set for PAS elements. For elements that are input to EUB databases. Where more decimal places have been submitted, the EUB program will round off to the appropriate decimal place while uploading to these systems. However, the number of decimal places indicated here do not apply to raw data points, which generally provide for greater resolution, as indicated on the various formats:

All Depths must be less than	7,000.00 M	rounded to 2 decimals
All Pressures must be less than	99,999.00 kPa	rounded to whole number
All Temperatures must be between	-100 and 1,000°C	rounded to whole number
All Times must be less than (except for DSTs which are reported in minutes, and raw data as indicated above)	100,000.0 H	rounded to 1 decimal
All gas production rates must be less than	100,000.00 E^3M^3/day	rounded to 2 decimals
All oil and water rates must be less than	100,000.00 M^3/day	rounded to 2 decimals

- WELL INFORMATION [UWI] (unique well identifier) must exist on EUB system
- WELL INFORMATION [WLIC] (well license number) must match license number for this UWI on EUB system
- WELL INFORMATION [WTYP] (well type indicator) must = "V", "D", or "H"
- WELL INFORMATION [OHCI] (open hole completion indicator) must = "Y" or "N"
- WELL INFORMATION [LINR] (casing liner indicator) must = "Y" or "N" or be blank
- WELL INFORMATION [AFLO] (tubing or annular flow) must = "T", "A", or "C" or be blank
- TEST DATA [PRPS] (test purpose) flag must = "Y" or "N"
- TEST DATA [AOFTY] (AOF test type code) must = "01", "02", "03", or "04"
- TEST DATA [TBASL] (test interval base at log depth) must be > "0.0", and
  => [TTOPL] (test interval top at log depth), and
  => [TBAST] (test base at TVD)

- TEST DATA [TTOPL] (test interval top at log depth) must be > "0.0", and
  => [TTOPT] (test top at TVD)

- TEST DATA [TBAST] (test interval base at TVD) must be > "0.0", and
  => [TTOPT] (test interval top at TVD)

- TEST DATA [TTOPT] (test interval top at TVD) must be > "0.0"

- TEST DATA [FTDT] (final test date) must be >spud date and < = current date or abandoned date

- TEST DATA [GPTO] (method of test production) must = "P", "V", or "F"

- TEST DATA [GPTH] (description of gas produced) must = "C", "T", or "B"

- RESULTS – SUMMARY [LIT] (lit analysis indicator) must = "Y" or "N"

- If RESULTS – SUMMARY [LIT] (lit analysis indicator) = "Y", then
  TEST DATA [AOFTY] (AOF test type code) must = "3" (theoretical)

7.5 Non-Critical Edits for AOF Tests

- TEST DATA [TTOPT] (test top at TVD) must be <= Total Well Depth

- TEST DATA [TBAST] (test base at TVD) must be <= Total Well Depth

- TEST DATA [TTOPL] (test top at log depth) must be <= Total Well Depth

- TEST DATA [TBASL] (test base at log depth) <= Total Well Depth

- If RESULTS – SUMMARY [LIT] (LIT analysis indicator) = "N", then
  RESULTS – SUMMARY [NSF] (sandface inverse slope) must be => 0.5 and <= 1.0, or
  RESULTS – SUMMARY [NWH] (wellhead inverse slope) must be => 0.5 and <= 1.0

- If RESULTS – SUMMARY [LIT] (LIT analysis indicator) = "Y" , then
  RESULTS – SUMMARY [NSF] (sandface inverse slope) must be blank

- RESULTS – SUMMARY [PFSF] (stabilized flowing sandface pressure) must be > 200 kPa, and
  < [PAVG] (average reservoir pressure), or

- RESULTS – SUMMARY [PFWH] (stabilized flowing wellhead pressure) must be > 200 kPa, and
  < [PAVG] (average reservoir pressure).

- RESULTS SUMMARY [QGST] (stabilized flow rate) must be > 0.2 and < 3,000 E^3M^3
- RESULTS – SUMMARY [PAVG] (average reservoir pressure) must be > 500 kPa and < 99,999 kPa

- RESULTS – SUMMARY [AOFSF] (stabilized sandface AOF) must be => [QGST] (stabilized gas rate) and < 15,000 E^3M^3/day, or

- RESULTS – SUMMARY [AOFWH] (stabilized wellhead AOF) must be => [QGST] (stabilized gas rate) and < 15,000 E^3M^3/day

- Flag all tests where [AOFSF] or [AOFWH] differ from EUB AOFP system calculation by more than 15%

7.6 AOF TIFF File

A TIFF file is not required for an AOF test, but can be used to report information not included in the PAS file.

7.7 AOF-PAS Format

The actual AOF-PAS format is detailed on the following two pages. This format may not be the latest version. All users should check the EUB website to find the latest version of PAS formats. Dates are included on the formats to determine the most recent version.

#NOTE: Definition [NUMB A,B] indicates A total digits, with B digits after the decimal (e.g.: [NUMB 5,2] = 123.45) *Release Date: December 31, 1998*

```
~ VERSION
# MNEM. UNIT      MANDATORY        DEFINITION           DESCRIPTION OF MNEMONIC                      EXPLANATION
# -------------   -------------    -------------        -----------------------------------------    ---------------------------------------------
  TYPE.             PAS-AOF        [CHAR 7]             DIGITAL DATA - ABSOLUTE OPEN FLOW TEST       Gas well Deliverability test, format
  UNIT.                M           [CHAR 1]             UNITS FLAG                                   Metric Units for EUB submission
  VERS.               2.1          [NUMB 5,2]           CIM/EUB DIGITAL WELL TEST DATA               Current CIM/EUB version for ASCII test data submission

~WELL INFORMATION
# MNEM.UNIT       MANDATORY        DEFINITION           DESCRIPTION OF MNEMONIC                      EXPLANATION
# -------------   -------------    -------------        ----------------------------------           --------------------
  COMP.                M           [CHAR 60]            COMPANY NAME                                 Licensee Name
  UWI                  M           [CHAR 20]            UNIQUE WELL ID                               Unique well identifier - bottomhole location
  WLIC.                M           [CHAR 9]             EUB WELL LICENSE NUMBER                      EUB Well License Number
  FORM.                M           [CHAR 20]            FORMATION NAME                               Name of the geological formation/zone
  WSFL.                M           [NUMB 2]             WELL FLUID STATUS AT TEST DATE               Type of production/pay or reservoir, code per EUB Guide 52 (i.e. oil, gas, water)
  WSMO.                M           [NUMB 2]             WELL MODE STATUS AT TEST DATE                Current producing status of well, code per EUB Guide 52 (i.e. suspended, abandoned)
  WSTY.                M           [NUMB 2]             WELL TYPE STATUS AT TEST DATE                Type of well, code per EUB Guide 52 (i.e. disposal, injection, source)
  WTYP.                M           [CHAR 1]             WELL TYPE INDICATOR                          Flag indicating (V)ertical, (D)eviated, or (H)orizontal Wellbore
  WHDP.M               O           [NUMB 10,5]          WHIPSTOCK DEPTH  M KB (TVD)                  Depth of whipstock
  HLID.MM              MO          [NUMB 4,1]           HOLE DIAMETER MM                             Inside diameter of hole
  OHCI.                M           [CHAR 1]             OPEN HOLE COMPLETION INDICATOR               Flag indicating open hole completion (Y)es or (N)o
  CSLD.M               MO          [NUMB 10,5]          CASING LANDED AT DEPTH  M KB (TVD)           Depth at which casing landed, if open hole completion
  LINR.                MO          [CHAR 1]             CASING LINER INDICATOR                       Flag indicating presence of casing liner (Y)es or (N)o
  TULD.M               O           [NUMB 10,5]          TUBING LANDED AT DEPTH  M KB (TVD)           Depth at which tubing is landed
  PCID.MM              O           [NUMB 4,1]           PRODUCTION CASING ID MM                      Inside diameter of production casing
  PTOD.MM              O           [NUMB 4,1]           PRODUCTION TUBING OD MM                      Outside diameter of production tubing
  TUBS.MM              O           [NUMB 4,1]           PRODUCTION TUBING ID MM                      Inside diameter of production tubing
  PKDT.M               O           [NUMB 10,5]          PACKER SETTING DEPTH IN M KB (TVD)           Depth at which packer set
  AFLO.                O           [CHAR 1]             TUBING OR ANNULAR FLOW                       Flag indicating flow regime (A)nnular, (C)asing or (T)ubing


~ TEST DATA
# MNEM.UNIT       MANDATORY        DEFINITION           DESCRIPTION OF MNEMONIC                      EXPLANATION
# -------------   -------------    -------------        ----------------------------------           --------------------
  PRPS.                M           [CHAR 1]             TEST PURPOSE                                 Flag indicating EUB required survey (Y)es or (N)o
  AOFTY.               M           [NUMB 2]             AOF TEST TYPE CODE                           AOF test type code as per EUB Guide 52
  TTNC.                O           [CHAR 20]            AOF TEST TYPE NAME                           Description type of test conducted
  SERCO.               M           [CHAR 5]             SERVICE COMPANY CODE                         Company conducting test (code from EUB Guide 52)
  TTOPL.M              M           [NUMB 10,5]          TEST/PROD. INTERVAL TOP M KB (LOG)           Top of tested or producing interval at log depth
  TBASL.M              M           [NUMB 10,5]          TEST/PROD. INTERVAL BASE M KB (LOG)          Base of tested or producing interval at log depth
  TTOPT.M              M           [NUMB 10,5]          TEST/PROD. INTERVAL TOP M KB (TVD)           Top of tested or producing interval at true vertical depth
  TBAST.M              M           [NUMB 10,5]          TEST/PROD. INTERVAL BASE M KB (TVD)          Base of tested or producing interval at true vertical depth
  STRT.DAY/HR          O           [YYYY MM DD HHHH]    TEST START DATE/TIME                         Date/time test started
  TISI.DAY/HR          O           [YYYY MM DD HHHH]    TIME WELL SHUT-IN                            Date/time well shut-in for pressure build-up
  FTDT.DAY/HR          M           [YYYY MM DD HHHH]    TEST FINAL DATE/TIME                         Date/time test ended
  TSUR.DEGC            O           [NUMB 5,2]           SURFACE TEMPERATURE DEGC                     Temperature at surface
  TUPS.KPAA          O        [NUMB 8,2]       INITIAL TUBING PRESSURE KPAA               Tubing pressure at start of test
  CSPS.KPAA          O        [NUMB 8,2]       INITIAL CASING PRESSURE KPAA               Casing pressure at start of test
  VGAS.E3M3          M        [NUMB 13,4]      GAS PRODUCED IN CLEANUP/TEST E3M3          Total gas volume produced during cleanup and test
  GPTO.              M        [CHAR 1]         METHOD OF TEST PRODUCTION                  Flag indicating gas produced to (P)ipeline, (V)ent, or (F)lare
  GPTH.              M        [CHAR 1]         DESCRIPTION OF GAS PRODUCTION              Flag indicating gas produced through (A)nnulas, (C)asing, (T)ubing or (B)oth
  FDUR.HR            M        [NUMB 10,5]      FLOW DURATION HOURS                        Hours well flowed during test
  QFGAS.E3M3/D       M        [NUMB 13,4]      FINAL GAS PRODUCTION RATE E3M3/D           Gas production rate at end of test
  QFCON.M3/D         O        [NUMB 13,4]      FINAL CONDENSATE PRODUCTION RATE M3/D      Condensate production rate at end of test
  QRGAS.E3M3/D       O        [NUMB 13,4]      RECOMBINED GAS PRODUCTION RATE E3M3/D      Recombined gas production rate
  QFWTR.M3/D         O        [NUMB 13,4]      FINAL WATER PRODUCTION RATE M3/D           Water production rate at end of test
  GEQV.E3M3/D        O        [NUMB 13,4]      GAS EQUIVALENT OF CONDENSATE E3M3/D        Gas rate equivalent to condensate
  QDAT.DAY           M        [YYYY MM DD]     DATE OF PRODUCTION RATES                   Date production rates were measured
  TRES.DEGC          M        [NUMB 5,2]       RESERVOIR TEMPERATURE DEGC                 Reservoir temperature
  BLOW.HR            O        [NUMB 10,5]      WELL BLOW DURATION HOURS                   Minutes well was allowed to blow
  SPRAY.HR           O        [NUMB 10,5]      TIME FOR SPRAY TO CLEAR HOURS              Water or condensate spray clear time
  DOIL.KG/M3         O        [NUMB 6,2]       OIL DENSITY KG/M3                          Density of the oil in Wellbore


~ RESULTS - SUMMARY
# MNEM.UNIT       MANDATORY   DEFINITION       DESCRIPTION OF MNEMONIC                    EXPLANATION
# -------------   ---------   ----------       -----------------------                    -----------
  LIT.               M        [CHAR 1]         LIT ANALYSIS INDICATOR                     Flag indicating LIT analysis (Y)es or (N)o
  QGST.E3M3/D        M        [NUMB 13,4]      STABILIZED RATE E3M3/D                     Stabilized flow rate
  PFSF.KPAA          MO       [NUMB 8,2]       STABILIZED FLOWING SANDFACE PRESSURE       Measured stabilized pressure at sandface kPaa
  PFWH.KPAA          MO       [NUMB 8,2]       STABILIZED FLOWING WELLHEAD PRESSURE       Measured stabilized pressure at the wellhead kPaa
  PAVG.KPAA          M        [NUMB 8,2]       AVERAGE RESERVOIR PRESSURE KPAA AT MPP     Best estimate of reservoir pressure at MPP (TVD)
  PAVGC.             O        [CHAR 240]       COMMENT ON SOURCE OF PAVG ABOVE            Source and date of pressure data used for this analysis
  METHC.             MO       [CHAR 240]       COMMENT RE SANDFACE PRESSURE               Method of calculating or measuring Sandface pressure
  AOFSF.E3M3/D       MO       [NUMB 13,4]      STABILIZED SANDFACE AOF E3M3/D             Stabilized Sandface AOF potential
  NSF.               MO       [NUMB 3,2]       INVERSE SLOPE AT SANDFACE                  Sandface inverse slope - "n" (should be 0.5-1.0)
  WPRE.KPAA          O        [NUMB 8,2]       STATIC WELLHEAD PRESSURE KPAA              Static pressure at well head
  AOFWH.E3M3/D       MO       [NUMB 13,4]      STABILIZED WELLHEAD AOF E3M3/D             Stabilized Wellhead AOF potential
  NWH.               MO       [NUMB 3,2]       INVERSE SLOPE AT WELLHEAD                  Wellhead inverse slope - "n" (should be 0.5-1.0)
  AOFC.              O        [CHAR 50]        COMMENT                                    Freeform comment on AOF quality, etc.
```

8.0 ACOUSTIC WELL SOUNDER FORMATS (AWS)

This is the reporting format for all tests conducted by acoustic methods, whether static, build-up or fall-off. This format is also used to report surface tests. Since surface gauges do not compensate for gas or fluid columns in the wellbore, these tests require calculations to bottom-hole conditions, the same as acoustic tests, assuming either fluid to surface (fluid level = 0), or no fluid column (fluid level = MPP). All parameters and assumptions used for these calculations are to be reported. The validation requirements for acoustic testing defined in Guide 40, remain in effect.

8.1 AWS General Information

- **TEST DATA [QGAS] (gas production rate)** is mandatory. If the gas production rate is very low, there may not be a gas rate measurement. In all cases the gas production is always accounted for in monthly production reports. Use the same correlation or assumptions to determine a gas rate for the PAS file. This information improves the quality and interpretation of an acoustic test (ie a high gas rate in an oil well could indicate some foaming problems and account for an artificially high calculated pressure). The test will not reject if zero (0.0) is used, but should only be as a last resort.

- **TEST DATA [QOIL] (oil production rate)** can be reported as zero (0.0) as well, if the well is a gas well.

- **TEST DATA [QWTR] (water production rate)** can be reported as zero (0.0) if no water is produced.

- **RESULTS – SUMMARY [STGR] (representative pressure gradient)** in the summary section is used in EUB systems to calculate the bottom-hole pressure at MPP, at the end of the test, or the representative data point on the test. It would be the average liquid gradient required to calculate that pressure, at that point in the test.

- **HEADER DATA – ACOUSTIC [DOIL] (oil density)** can be reported as zero (0.0) for a gas or water well.

- **HEADER DATA – ACOUSTIC [PLLV] (pumping liquid level)** can equal zero (0.0) if fluid to surface.

- **HEADER DATA - ACOUSTIC [PPLV] (pumping fluid level)** is the fluid level at time = zero. This element had to remain as "optional" to accommodate tests on wells with extended shut-ins. However, including a pumping fluid level wherever possible, will ensure better accuracy when testing a well that produces water. It will be easier for the test to pass validation edits performed on all acoustic tests.

- **DTAC [GROIL] (oil gradient)** can be reported as zero (0.0) for a gas or water well, or if there is no water in the wellbore.

- **DATA TABLE – ACOUSTIC [LLV] (liquid level)** can equal zero (0.0) if fluid to surface but cannot be blank.

- **DATA TABLE – ACOUSTIC** must have at least one line of raw data.

8.2 AWS Mandatory/Optional

WELL INFORMATION SECTION:

- [HLID] (hole diameter in millimeters) is mandatory if [OHCI] = “Y”
- [CSLD] (casing landed at depth) is mandatory if [OHCI] = “Y”
- [LINR] (casing liner indicator) is mandatory if [OHCI] = “Y”

ANALYSIS – GENERAL INFORMATION SECTION (see section 8.4.1 for more information):

- [PAVG] (representative average reservoir pressure) is mandatory if TEST DATA [PRPS] (test purpose flag) = “Y”, and [TTYP] (test type code) = “11” or “12”,

OR

- [PEXTR] (representative extrapolated or false pressure) is mandatory if TEST DATA [PRPS] (test purpose flag) = “Y”, and [TTYP] (test type code) = “11” or “12”, and [PAVG] is blank

UNLESS RAW DATA INDICATES A STABILIZED PRESSURE

Note: Use **[PAVG]** wherever possible, as it is the more reliable estimate of actual reservoir pressure. It was necessary to accept [PEXTR] to accommodate initial pressure tests, and tests where the difference between the last measured/calculated pressure and the extrapolated pressure is very small. Be careful with the use of [PEXTR], especially in situations where a minimum operating pressure (MOP) exists. If the last measured/calculated pressure is below MOP, [PEXTR] is not acceptable to indicate the pressure is above MOP. You may be asked to shut-in your well until a test clearly indicates a pressure above MOP.)

For very prolific wells, where 6 hours of buildup time is not necessary to reach a stabilized pressure, report the stabilized pressure as [PAVG] to pass edit; otherwise the file will be rejected if analysis is not included.

8.3 Codes for AWS Tests

See section 6.1.1 or Appendix C for codes WELL INFORMATION [WSFL] (well fluid status), [WSMO] (fluid mode), and [WSTY] (fluid type).

Acceptable values for TEST DATA [TTYP] (test type) for acoustic tests are:

10 - Acoustic/surface test - Single shot
11 - Acoustic/surface test - Buildup
12 - Acoustic/surface test - Falloff (these codes are to be used for all tests conducted from surface data, where the bottomhole pressure is calculated)

Codes "01" and "02" previously included in this list have been eliminated as these codes were originally used in the old gas data base for any tests that were not measured by bottom hole gauge, including acoustics. At that time acoustic codes were not considered necessary as acoustic tests were rarely conducted on gas wells. With the development of the system for tests on oil wells, codes for acoustics were deemed necessary and added to the list. The EUB must maintain the surface codes

(01 and 02) for historical tests on the database, but these codes will not be accepted for use with electronic submission.

See Appendix D for TEST DATA [SERCO] (service company codes).

8.4 Critical Edits for AWS Tests

- All depths, pressures, temperatures, times, volumes and rates must comply with the ranges specified in section 5.5.
- WELL INFORMATION [UWI] (unique well identifier) must exist on EUB system
- WELL INFORMATION [WLIC] (well license number) must match license number for this UWI on EUB system
- WELL INFORMATION [WTYP] (well type indicator) must = "V", "D", or "H"
- WELL INFORMATION [OHCI] (open hole completion indicator) must = "Y" or "N"
- WELL INFORMATION [LINR] (casing liner indicator) must = "Y" or "N" or be blank
- WELL INFORMATION [AFLO] (tubing or annular flow) must = "T", "A", or "C" or be blank
- TEST DATA [PRPS] (test purpose flag) must = "Y" or "N"
- TEST DATA [TTYP] (test type code) must = "10", "11", or "12"
- TEST DATA [TBASL] (test interval base at log depth) must be > "0.0", and
  => [TTOPL] (test interval top at log depth), and
  => [TBAST] (test base at TVD)
- TEST DATA [TTOPL] (test interval top at log depth) must be > "0.0", and
  => [TTOPT] (test top at TVD)
- TEST DATA [TBAST] (test interval base at TVD) must be > "0.0", and
  => [TTOPT] (test interval top at TVD)
- TEST DATA [TTOPT] (test interval top at TVD) must be > "0.0"
- TEST DATA [FTDT] (final test date) must be > spud date and <= current date or abandoned date
- TEST DATA [QGAS] (gas production rate prior to test) can be negative if [TTYP] = "10" or "12" (this is only for tests on gas injection wells)
- TEST DATA [QOIL] (oil production rate prior to test) can be negative if [TTYP] = "10" or "12" (this is only for tests on oil injection wells)
- TEST DATA [QWTR] (water production rate prior to test) can be negative if [TTYP] = "10" or "12" (this is only for tests on water injection wells)

- HEADER DATA – ACOUSTIC [DOIL] (oil density) can = "0.0" if
  WELL INFORMATION [WSFL] (well status fluid code) = "02"
  Density of oil can be zero for dry gas wells

- DTAC – DATA TABLE – ACOUSTIC [GROIL] (oil gradient) and [GRGAS] (gas gradient) can both = "0.0" if WELL INFORMATION [WSFL] (well status fluid code) = "02"
  Oil and water gradients can be zero for dry gas wells

8.4.1 Critical Edits for Transient Analysis

If you are submitting a transient pressure test to fulfil requirements, the PAS file must either include analysis, or the raw data must reflect a stabilized reservoir pressure. Files not passing these edits will be rejected, with a message indicating that analysis is required.

- **The following are the critical edits to determine if analysis is present for AWS tests:**

  If TEST DATA [TTYP] (test type) = "11" or "12", and
  TEST DATA [PRPS] (test purpose) = "Y",

  then ANALYSIS – GENERAL INFORMATION [PAVG]
  (representative average reservoir pressure) must be > "0.0" or

  ANALYSIS – GENERAL INFORMATION [PEXTR]
  (representative extrapolated pressure) must be > "0.0"

OR

- The following is the process used by the EUB system to determine if a stabilized reservoir pressure has been reached:
  - Get the value reported as:
    RESULTS SUMMARY [PMPP] (representative bottomhole pressure at MPP).
  - Match this value to the acoustic data table.
  - The difference in pressure over the 6 hours prior to this value must be equal to or less than 12 kPa (2 kPa per hour as defined in section 5.6.1.1 of Guide 40).
  - If a pressure reading cannot be found at the 6-hour interval prior to [PMPP], the edit will look for the next previous reading and determine if the 2 kPa/hr limit has been met.

IMPORTANT:

If this program cannot match the exact value reported in RESULTS SUMMARY [PMPP] or [PRGA] to a pressure point in the raw data table (from source gauge), the file will be rejected.

(**Note:** Use **[PAVG]** wherever possible as it is the more reliable estimate of actual reservoir pressure. It was necessary to accept [PEXTR] to accommodate initial pressure tests, and tests where the difference between the last measured/calculated pressure and the extrapolated pressure is very small. Be careful with the use of [PEXTR], especially in situations where a minimum operating pressure (MOP) exists. If the last measured/calculated pressure is below MOP, [PEXTR] is not acceptable to indicate the pressure is above MOP. You may be asked to shut-in your well until a test clearly indicates a pressure above MOP.)

For very prolific wells, where 6 hours of buildup time is not necessary to reach a stabilized pressure, report the stabilized pressure as [PAVG] to pass edit; otherwise the file will be rejected if analysis is not included.

8.5 Non-Critical Edits for AWS Tests

- WELL INFORMATION [WSFL] (well fluid status) must equal a code on the table
- TEST DATA [TTOPT] (test top at TVD) cannot be greater than Total Well Depth
- TEST DATA [TBAST] (test base at TVD) cannot be greater than Total Well Depth
- TEST DATA [TTOPL] (test top at log depth) cannot be greater than Total Well Depth
- TEST DATA [TBASL] (test base at log depth) cannot be greater than Total Well Depth
- HEADER DATA – ACOUSTIC [PPLV] (pumping liquid) level cannot be > MPP at TVD
- DATA TABLE – ACOUSTIC [LLV] (liquid level) cannot be > than MPP calculated from interval top and base.
- DATA TABLE – ACOUSTIC [PSUR] (surface pressure) must be < 35,000 kPa
- DATA TABLE – ACOUSTIC [GRGAS] (gas gradient) must be > > 0.001 and < 5.999 kPa/meter , if [LLV] (liquid level) > "0.0"
- DATA TABLE – ACOUSTIC [GROIL] (oil gradient) must be > 1.50and < 9.795 kPa/meter (can be "0.0" if a gas or water well)
- DATA TABLE – ACOUSTIC [GRWTR] (water gradient) must be > 9.794 < 15.999 kPa/meter (can be "0.0" if no water in wellbore)
- If ANALYSIS – GENERAL INFORMATION [PAVG] (representative average reservoir pressure) is > "0.0", then it must be < 99,999 kPa and > [PMPP] for a build-up test, and < [PMPP] for a fall-off test.
- If ANALYSIS – GENERAL INFORMATION [PEXTR] (representative extrapolated/false pressure) is > "0.0", then it must be < 99,999 kPa, and > [PMPP] for a build-up test, and < [PMPP] for a fall-off test.
- Flag all tests where ANALYSIS – GENERAL INFORMATION [PAVG] (representative average reservoir pressure) is > "0.0", and differs from RESULTS – SUMMARY [PMPP] (representative bottomhole pressure at MPP) by > 25%.
- Flag all tests where ANALYSIS – GENERAL INFORMATION [PEXTR] (representative extrapolated/false pressure) is > "0.0", and differs from RESULTS – SUMMARY [PMPP] (representative bottomhole pressure at MPP) by > 25%.

8.6 AWS TIFF File

A TIFF file is required if a transient acoustic test is conducted and should consist of a plot indicating the pressure buildup (or fall-off) and any charts, graphs, plots or text from analysis. TIFF files can also be used to report any other parameters not included in the PAS format.

8.7 AWS-PAS Format

The actual AWS-PAS format is detailed on the following four pages. This format may not be the latest version. All users should check the EUB website to find the latest version of PAS formats. Dates are included on the formats to determine the most recent version.

#NOTE: Definition [NUMB A,B] indicates A total digits, with B digits after the decimal (e.g.: [NUMB 5,2] = 123.45) *Release Date: December 31, 1998*

~ VERSION

# MNEM. UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
TYPE.	PAS-AWS	[CHAR 7]	DIGITAL DATA - ACOUSTIC PRESSURE TEST	Acoustic pressure test, format
UNIT.	M	[CHAR 1]	UNITS FLAG	Metric Units for EUB submission
VERS.	2.1	[NUMB 5,2]	CIM/EUB DIGITAL WELL TEST DATA	Current CIM/EUB version for ASCII test data submission

~WELL INFORMATION

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
COMP.	M	[CHAR 60]	COMPANY NAME	Licensee Name
UWI .	M	[CHAR 20]	UNIQUE WELL ID	Unique well identifier - bottomhole location
WLIC.	M	[CHAR 9]	EUB WELL LICENSE NUMBER	EUB Well License Number
FORM.	M	[CHAR 20]	FORMATION NAME	Name of the geological formation/zone
WSFL.	M	[NUMB 2]	WELL FLUID STATUS AT TEST DATE	Type of production/pay or reservoir, code per EUB Guide 52 (i.e. oil, gas, water)
WSMO.	M	[NUMB 2]	WELL MODE STATUS AT TEST DATE	Current producing status of well, code per EUB Guide 52 (i.e. suspended, abandoned)
WSTY.	M	[NUMB 2]	WELL TYPE STATUS AT TEST DATE	Type of well, code per EUB Guide 52 (i.e. disposal, injection, source)
WTYP.	M	[CHAR 1]	WELL TYPE INDICATOR	Flag indicating (V)ertical, (D)eviated, or (H)orizontal Wellbore
WHDP.M	O	[NUMB 10,5]	WHIPSTOCK DEPTH M KB (TVD)	Depth of whipstock
HLID.MM	MO	[NUMB 4,1]	HOLE DIAMETER MM	Inside diameter of hole
OHCI.	M	[CHAR 1]	OPEN HOLE COMPLETION INDICATOR	Flag indicating open hole completion (Y)es or (N)o
CSLD.M	MO	[NUMB 10,5]	CASING LANDED AT DEPTH M KB (TVD)	Depth at which casing landed, if open hole completion
LINR.	MO	[CHAR 1]	CASING LINER INDICATOR	Flag indicating presence of casing liner (Y)es or (N)o
TULD.M	O	[NUMB 10,5]	TUBING LANDED AT DEPTH M KB (TVD)	Depth at which tubing is landed
PCID.MM	O	[NUMB 4,1]	PRODUCTION CASING ID MM	Inside diameter of production casing
PTOD.MM	O	[NUMB 4,1]	PRODUCTION TUBING OD MM	Outside diameter of production tubing
TUBS.MM	O	[NUMB 4,1]	PRODUCTION TUBING ID MM	Inside diameter of production tubing
PKDT.M	O	[NUMB 10,5]	PACKER SETTING DEPTH IN M KB (TVD)	Depth at which packer set
AFLO.	M	[CHAR 1]	TUBING OR ANNULAR FLOW	Flag indicating flow regime (A)nnular, (C)asing or (T)ubing

~TEST DATA

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
PRPS.	M	[CHAR 1]	TEST PURPOSE	Flag indicating EUB required survey (Y)es or (N)o
TTYP.	M	[NUMB 2]	TEST TYPE CODE	Test type code as per EUB Guide 52
TTNC.	O	[CHAR 20]	TEST TYPE NAME	Description type of test conducted
SERCO.	M	[CHAR 5]	SERVICE COMPANY CODE	Company conducting test (code from EUB Guide 52)
TTOPL.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL TOP M KB (LOG)	Top of tested or producing interval at log depth
TBASL.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL BASE M KB (LOG)	Base of tested or producing interval at log depth
TTOPT.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL TOP M KB (TVD)	Top of tested or producing interval at true vertical depth
TBAST.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL BASE M KB (TVD)	Base of tested or producing interval at true vertical depth
STRT.DAY/HR	O	[YYYY MM DD HHHHH]	TEST START DATE/TIME	Date/time test started
TISI.DAY/HR	M	[YYYY MM DD HHHHH]	TIME WELL SHUT-IN	Date/time well shut-in for final buildup or fall-off
FTDT.DAY/HR	M	[YYYY MM DD HHHHH]	TEST FINAL DATE/TIME	Date/time test ended
TSUR.DEGC	O	[NUMB 5,2]	SURFACE TEMPERATURE DEGC	Temperature at surface
TUPS.KPAA	O	[NUMB 8,2]	INITIAL TUBING PRESSURE KPAA	Tubing pressure at start of test

```
  CSPS.KPAA         O          [NUMB 8,2]       INITIAL CASING PRESSURE KPAA                  Casing pressure at start of test
  QGAS.E3M3/D       M          [NUMB 13,4]      GAS PRODUCTION RATE PRIOR TO TEST             Daily gas rate prior to test - can be negative for falloff - recombined for condensate
  QOIL.M3/D         M          [NUMB 13,4]      OIL PRODUCTION RATE PRIOR TO TEST             Daily oil rate prior to test - can be negative for falloff
  QWTR.M3/D         M          [NUMB 13,4]      WATER PRODUCTION RATE PRIOR TO TEST           Daily water rate prior to test - can be negative for falloff
  QDAT.DAY          M          [YYYY MM DD]     DATE OF PRODUCTION RATES                      Date production rates were measured

~ RESULTS - SUMMARY
# MNEM.UNIT     MANDATORY      DEFINITION       DESCRIPTION OF MNEMONIC                       EXPLANATION
# -----------   -----------    -----------      -------------------------------               ---------------
  STGR.KPA/M        M          [NUMB 5,3]       REPRESENTATIVE PRESSURE GRADIENT              Representative gradient used to correct pressure to MPP (TVD)
  TRES.DEGC         M          [NUMB 5,2]       RESERVOIR TEMPERATURE DEGC                    Reservoir temperature deg C
  PMPP.KPAA         M          [NUMB 8,2]       REPRESENTATIVE BOTTOM HOLE PRESSURE           Last measured, calculated or most representative pressure corrected to MPP (TVD), kPaa
  VALC.             O          [CHAR 240]       VALIDATION COMMENT                            Acoustic validation comment on pressure - comparison to trend or offsets, SI time, etc.
  AWSC.             O          [CHAR 50]        COMMENT                                       Freeform comments (i.e. regarding shut-in, surface pressure etc.)

~ HEADER DATA - ACOUSTIC
# MNEM.UNIT     MANDATORY      DEFINITION       DESCRIPTION OF MNEMONIC                       EXPLANATION
# -----------   -----------    -----------      -------------------------------               ---------------
  TSURM.DEGC        M          [NUMB 5,2]       MEAN ANNUAL SURFACE TEMP DEGC                 Average annual surface temperature
  DOIL.KG/M3        M          [NUMB 6,2]       OIL DENSITY                                   Density of the oil in wellbore (can be zero, if no oil present)
  SGG.              M          [NUMB 4,3]       GAS SPECIFIC GRAVITY                          Specific Gravity of the gas in wellbore
  CASS.             O          [CHAR 1]         CASING OPEN/CLOSED INDICATOR                  Flag indicating casing status (O)pen or (C)losed
  DPTS.             M          [CHAR 1]         ANNULAR DEPRESSION TEST INDICATOR             Flag denoting annular fluid depression test (Y) or (N)o
  METHC.            O          [CHAR 240]       METHOD OF CALCULATION COMMENT                 Description for method of acoustic calculation
  PPLV.M            O          [NUMB 10,5]      PUMPING LIQUID LEVEL M KB (TVD)               Liquid level prior to shut-in at, time = zero

~ DATA TABLE - ACOUSTIC
# ( DTAC, DEFINITIONS AND DESCRIPTIONS IN ASSOCIATION WITH DTAC TABLE)
# MNEM.UNIT     MANDATORY      DEFINITION       DESCRIPTION OF MNEMONIC                       EXPLANATION
# -----------   -----------    -----------      -------------------------------               ---------------
  TCUM.HR           M          [NUMB 10,5]      CUMULATIVE TIME AFTER SHUT IN                 Cumulative time in hours, since well shut-in
  LLV .M            M          [NUMB 10,5]      LIQUID LEVEL M KB (TVD)                       Calculated liquid level for each shot
  PSUR.KPAA         M          [NUMB 8,2]       SURFACE PRESSURE KPAA                         Corresponding casing/surface pressure at that time
  GRGAS.KPA/M       M          [NUMB 5,3]       GAS GRADIENT                                  Estimated gradient of gas in wellbore
  GROIL.KPA/M       M          [NUMB 5,3]       OIL GRADIENT                                  Estimated gradient of oil in wellbore
  GRWTR.KPA/M       M          [NUMB 5,3]       WATER GRADIENT                                Estimated gradient of water in wellbore
  PMPP.KPAA         M          [NUMB 8,2]       CALCULATED PRESSURE AT MPP (TVD)              Pressure calculated using above parameters at corresponding point in time, kPaa

~ DTAC            TCUM          LLV            PSUR          GRGAS      GROIL      GRWTR      PMPP
#                 -----------   -----------    ----------    -------    -------    -------    ----------
                  99999.99999   99999.99999    999999.99     99.999     99.999     99.999     999999.99
                  99999.99999   99999.99999    999999.99     99.999     99.999     99.999     999999.99
                  99999.99999   99999.99999    999999.99     99.999     99.999     99.999     999999.99

~ ANALYSIS - GENERAL INFORMATION
# MNEM.UNIT     MANDATORY      DEFINITION       DESCRIPTION OF MNEMONIC                       EXPLANATION
# -----------   -----------    -----------      -------------------------------               ---------------
  ADAT. DAY         O          [YYYY MM DD]     DATE ANALYSIS COMPLETED                       Date analysis finalized
```

ANCO.	O	[CHAR 20]	FIRM THAT CONDUCTED ANALYSIS	Name of firm that conducted analysis
ANAM.	O	[CHAR 20]	ANALYST'S NAME	Name of individual that conducted analysis
PHASE.	O	[CHAR 1]	DOMINANT PHASE USED IN ANALYSIS	Flag indicating phase dominant for analysis (O)il, (G)as, (W)ater
TRET.	O	[CHAR 20]	LAST TREATMENT	Specifics of last treatment
DTRET.DAY	O	[YYYY MM DD]	DATE OF LAST TREATMENT	Date last treatment or stimulation conducted, as above
GENC.	O	[CHAR 240]	UNSPECIFIED GENERAL COMMENT	Analyst free form field for any use
PEXTR.KPAA	MO	[NUMB 8,2]	REPRESENTATIVE EXTRAP/ FALSE PRESSURE	Commonly known as P* kPaa (carried from representative analysis)
PAVG.KPAA	MO	[NUMB 8,2]	REPRESENTATIVE AVG RESERVOIR PRESSURE	Best estimate of reservoir pressure kPaa (carried from representative analysis)

~ ANALYSIS - INPUT PARAMETERS

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
# ————	————	————	————	————
SATW.FRACTION	O	[NUMB 3,2]	ASSUMED WATER SATURATION FRACTION	Water saturation assumed for this analysis
SATG.FRACTION	O	[NUMB 3,2]	ASSUMED GAS SATURATION FRACTION	Gas saturation assumed for this analysis
SATO.FRACTION	O	[NUMB 3,2]	ASSUMED OIL SATURATION FRACTION	Oil saturation assumed for this analysis
HZFL.M	MO	[NUMB 10,5]	HORIZONTAL WELL LENGTH IN FORMATION	Must be >0, if WTYP is Horizontal
PAY.M	O	[NUMB 10,5]	VERTICAL HEIGHT OF FORMATION M	Net pay or height of formation
PORO.FRACTION	O	[NUMB 4,3]]	ASSUMED POROSITY FRACTION	Porosity of reservoir assumed for this analysis
GEOC.	O	[CHAR 240]	GEOLOGICAL COMMENTS	Free form general comment, regarding geology

~ ANALYSIS - FLUID PROPERTIES

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
# ————	————	————	————	————
PVTP.KPAA	O	[NUMB 8,2]	PVT REFERENCE PRESSURE KPAA	Reference pressure from PVT analysis
RDOIL.	O	[NUMB 4,3]	OIL RELATIVE DENSITY	Oil relative density to water (unit-less)
RDGAS.	O	[NUMB 4,3]	GAS RELATIVE DENSITY	Gas relative density to air (unit-less)
RDWTR.	O	[NUMB 4,3]	WATER RELATIVE DENSITY	Water relative density to water (unit-less)
CT.KPA-1	O	[NUMB 9,8]	TOTAL COMPRESSIBILITY KPA	Total compressibility, kPa^{-1}
UOIL.MPAS	O	[NUMB 12,8]	OIL VISCOSITY	Viscosity of oil
UGAS.MPAS	O	[NUMB 9,8]	GAS VISCOSITY	Viscosity of gas
Z.	O	[NUMB 4,2]	GAS DEVIATION FACTOR	
BO.RM3/M3	O	[NUMB 4,2]	OIL FORMATION VOLUME FACTOR	Oil shrinkage factor from surface to reservoir conditions
RS.M3/M3	O	[NUMB 7,2]	OIL SOLUTION GOR	Solution gas oil ratio
PBP.KPAA	O	[NUMB 8,2]	OIL BUBBLE POINT PRESSURE KPAA	Bubble point pressure of oil

~ ANALYSIS - INTERPRETATION (n)

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
# ————	————	————	————	————
ANUM.	O	[NUMB 2]	ANALYSIS NUMBER	Assign number for each analysis (use 1 for most likely case)
ANTYP.	O	[CHAR 2]	BUILDUP OR FALLOFF ANALYSIS	Flag indicating type of analysis (BU) or (FO)
TFLO.HR	O	[NUMB 10,5]	FLOW TIME PERIOD BEFORE TRANSIENT	Preceding flow period time in hours
PWF.KPAA	O	[NUMB 8,2]	SANDFACE FLOWING PRESSURE AT SHUT-IN	Flowing sandface pressure at shut-in kPaa
TEVN.HR	O	[NUMB 10,5]	DURATION OF BUILDUP OR FALLOFF TIME	Duration of shut-in period used for analysis
MODLC.	O	[CHAR 240]	MODEL USED FOR ANALYSIS COMMENT	Describe type of model used to analyze data
PHASC.	O	[CHAR 240]	MULTI OR SINGE PHASE COMMENT	Comment on assumption of flow regime in reservoir
KH.MD	O	[NUMB 8,2]	CALCULATED FLOW CAPACITY	Flow capacity (e.g. use limiting KH on composite model)
KHC.	O	[CHAR 240]	COMMENTS ON KH	Open use on comments to qualify KH
STORC.M3/KPA	O	[NUMB 10,9]	WELLBORE STORAGE CONSTANT	Constant used for wellbore storage in calculations

XF.M	O	[NUMB 4]	FRACTURE HALF LENGTH	
SKIN.	O	[NUMB 5,2]	CALCULATED SKIN FACTOR	Mechanical skin if available, or total skin
SKINC.	O	[CHAR 240]	COMMENTS ON SKIN	Turbulence, partial penetration, etc.
LMP.KPAA	O	[NUMB 8,2]	LAST MEASURED PRESSURE AT MPP (TVD)	Last measured pressure from source gauge kPaa
LMPC.	O	[CHAR 240]	SOURCE OF LAST MEASURED PRESSURE	Comment on final transient point used, or subsequent static gradient
PEXTR.KPAA	O	[NUMB 8,2]	EXTRAPOLATED/ FALSE PRESSURE AT MPP TVD	Commonly known as P* kPaa
PAVG.KPAA	O	[NUMB 8,2]	AVERAGE RESERVOIR PRESSURE AT MPP (TVD)	Best estimate of reservoir pressure kPaa
PAVGC.	O	[CHAR 240]	METHOD TO CALCULATE AVERAGE PRESSURE	Methodology for determining average reservoir pressure
SHAPC.	O	[CHAR 240]	COMMENT ON RESERVOIR SHAPE	Deitz factor and shape assumed
AREA.HA	O	[NUMB 6,1]	AREAL EXTENT OF RESERVOIR IN HECTARES	Calculated or assumed value
BNDYC.	O	[CHAR 240]	DISCUSSION OF BOUNDARIES COMMENT	
AOFST.E3M3/D	O	[NUMB 13,4]	GAS WELL STABILIZED AOF	Stabilized AOF capability for gas well
AOFTR.E3M3/D	O	[NUMB 13,4]	GAS WELL TRANSIENT AOF	Transient AOF capability for gas well
IPRST.M3/D	O	[NUMB 13,4]	OIL WELL STABILIZED IPR	Stabilized inflow performance ratio for oil well
IPRTR.M3/D	O	[NUMB 13,4]	OIL WELL TRANSIENT IPR	Transient inflow performance ratio for oil well
PTIM.HR	O	[NUMB 10,5]	PRODUCING TIME - HOURS	
HTIM.HR	O	[NUMB 10,5]	HORNER PRODUCING TIME - HOURS	Assumed producing time for Horner time hours

9.0 DRILL STEM TEST FORMAT (DST)

This is the format for reporting all drill stem tests (DSTs) run under conventional or closed chamber conditions. All tests conducted under closed chamber conditions must be submitted with the DST information, as a single file and coded as a closed chamber test (DST test type 07); although they can still be bottomhole or straddle tests as well. This information will automatically update the EUB's DST record.

For DSTs, the TEST DATA [PRPS] (test purpose) flag is used to indicate submission of a DST to fulfil initial pressure survey requirements. A test previously submitted with a [PRPS] flag indicating (N)o, can be resubmitted with [PRPS] flag indicating (Y)es. Whenever a test is resubmitted, the entire test must be resubmitted.

9.1 DST General Information

- **GAUGE1 – SOURCE GAUGE** is always to be used to report the findings of the most representative gauge, and the data used for analysis. The gauge numbers represented in GAUGE (n) are **not** intended to indicate the sequence of gauges in the run.
- **DATA TABLES AND HEADERS** for subsequent gauges may be omitted if no gauges other than the source gauge were recorded.
- **TEST SUMMARY DATA** section is used to report a summary of the most representative data point from the source gauge and is not a data table.
- **DATA TABLE – DTFG (n) [STGE] (stage number)** can be alphabetic or numeric, or a combination of both. CHAR represents alphanumeric properties.
- **DATA TABLE RECOVERIES (DTREC)** may be omitted if
  RECOVERIES – DST [RPXX] (recoveries indicator) = "N"
- **FLOW SUMMARY DATA TABLE – CLOSED CHAMBER (DTFCC)** may be omitted if
  TEST DATA [DSTTY] (DST test type) does not = "07"
- **DATA TABLE – CLOSED CHAMBER (DTCC)** may be omitted if
  TEST DATA [DSTTY] (DST test type) does not = "07"
- **Flow rates and times too short to measure, should be reported as follows:**
  - for flow times to surface [TFGS] [TFOS] [TFWS], report immediate as ".00001"
  - for flow rates report a trace as ".00001"
- **Flow Rate** sections have been renamed to "First Flow", "Second Flow", and "Final Flow". The EUB systems use the information from the "Final Flow" section to update our test summary record, so always make sure the "Final Flow" is completed (may be blank only if a misrun test).
  - use the Final Flow section if there is only one flow,
  - use the First Flow and Final Flow sections if there are two flows,
  - If there are more than three flows, just report three, ensuring the final flow is reported in the Final Flow section (you can use a comment line beginning with # to indicate there is additional flow information in the TIFF file).

9.2 DST Mandatory/Optional

WELL INFORMATION SECTION:

- [WSFL] (well fluid status at test date) is mandatory if TEST DATA [PRPS] (test purpose) = "Y" indicating the DST is being submitted to fulfil initial pressure survey requirements. Since DST's are conducted before the well commences production, [WSFL] (fluid status), [WSMO] (fluid mode) and [WSTY] (fluid type) are optional if [PRPS] = "N".
- If [PRPS] flag = "Y", then [WSFL] (fluid status) will be the code for the production expected from this zone.

TEST DATA SECTION:

- [TTOPT] (test interval top at TVD) is mandatory if TEST DATA [PRPS] (test purpose) = "Y" and [MSRUN] (misrun flag) = "N"
- [TBAST] (test interval base at TVD) is mandatory if TEST DATA [PRPS] (test purpose) = "Y" and [MSRUN] (misrun flag) = "N"
- If [MSRUN] (misrun flag) = "Y", then EUB system does not edit any elements beyond this point.

TEST SUMMARY DATA SECTION:

(This section is to report a summary point only and is not a table for multiple data points.)

- [PRGA] (pressure at stop depth) is mandatory if TEST DATA [MSRUN] (misrun flag) = "N"
- [PRFFG] (final flowing pressure at stop depth) is mandatory if TEST DATA [MSRUN] (misrun flag) = "N"
- [GRSD] (representative pressure gradient) is mandatory if TEST DATA [PRPS] (test purpose) = "Y" (this gradient is used by EUB systems to correct from run depth to MPP, and may have to be estimated for DST's).

CUSHION SECTION:

(This section is mandatory if a cushion was used)

- [CUTP] (cushion type code) is mandatory if [CUIS] = "Y"
- [CULN] (cushion linear length) is mandatory if [CUIS] = "Y"
- [CUIL] (initial cushion length) is mandatory if [CUIS] = "Y"
- [LCGR] (liquid cushion gradient) is mandatory if [CUIS] = "Y"
- [VNCM] (net chamber volume) is mandatory if [CUIS] = "Y"

DATA TABLE – RECOVERIES SECTION:

(This table is mandatory if there were recoveries)

- [RXX2] (recovery amount) is mandatory if [RPXX] = “V” or “H”
- [RXXC] (recovery type code) is mandatory if [RPXX] = “V” or “H”
- [RXXD](recoveries description comment) is mandatory if [RPXX] = “V” or “H”

ANALYSIS – GENERAL INFORMATION SECTION:

The value of a DST is always enhanced with transient analysis. Since there are cases where the tests do not warrant analysis, analysis has not been deemed as mandatory on all DST's. However, if the test is being submitted to fulfil the initial pressure requirement [PRPS] flag = “Y”, then analysis is required.

- [PEXTR] (representative extrapolated or false pressure) is mandatory if TEST DATA [PRPS] = “Y”, indicating DST is being submitted to fulfil initial pressure requirement. All DST's being submitted as initial pressures must contain analysis, as there is insufficient data to apply the usual edit to determine if analysis is necessary, as defined in section 5.6.1.1.

ANALYSIS - INPUT PARAMETERS SECTION:

- [HZFL] (horizontal well length in formation) is mandatory if WELL INFORMATION [WTYP] (well type indicator) = “H” and TEST DATA [PRPS] (test purpose) flag = “Y”

TEST DATA – CLOSED CHAMBER SECTION:

(This table is mandatory if the DST was conducted under closed chamber conditions)

- [TCHA] (average temperature of chamber) is mandatory if TEST DATA [DSTTY] = “07”
- [PCHSI] (initial chamber surface pressure) is mandatory if TEST DATA [DSTTY] = “07”
- [PIGN] (initial gas/N2 head pressure) is mandatory if TEST DATA [DSTTY] = “07”
- [PTCU] (initial total cushion pressure) is mandatory if TEST DATA [DSTTY] = “07”
- [TPCK] (top choke size description) is mandatory if TEST DATA [DSTTY] = “07”
- [CKSZ] (downhole choke size description) is mandatory if TEST DATA [DSTTY] = “07”
- [VCHT] (total chamber volume) is mandatory if TEST DATA [DSTTY] = “07”
- [IGCF] (initial gas conversion factor) is mandatory if TEST DATA [DSTTY] = “07”
- [IGSF] (initial gas saturated H2O conversation factor) is mandatory if TEST DATA [DSTTY] = “07”
- [LICF] (pure liquid influx conversion factor) is mandatory if TEST DATA [DSTTY] = “07”

DATA TABLE – CLOSED CHAMBER SECTION:

(This table is mandatory if DST was conducted under closed chamber conditions)

- [STGE] (stage number) is mandatory if TEST DATA [DSTTY] = "07"
- [TIME] (real time) is mandatory if TEST DATA [DSTTY] = "07"
- [TCSF] (cumulative stage flow time) is mandatory if TEST DATA [DSTTY] = "07"
- [PSUR] (surface pressure) is mandatory if TEST DATA [DSTTY] = "07"
- [QLIQ] (liquid flow rate) is mandatory if TEST DATA [DSTTY] = "07"
- [QGAS] (gas rate) is mandatory if TEST DATA [DSTTY] = "07"

9.3 Codes for DSTs

See section 6.1.1 or Appendix C for codes WELL INFORMATION [WSFL] (well fluid status), [WSMO] (fluid mode), and [WSTY] (fluid type).

Acceptable values for TEST DATA [TTYP] (test type) for DSTs are:

01 - Bottomhole - test interval extends to total well depth at time of test
02 - Straddle - test interval does not extend to total well depth
07 - Closed chamber - test run under closed chamber conditions

All tests run under closed chamber conditions are coded as "07" regardless of the interval tested.

See Appendix D for TEST DATA [SERCO] (service company codes).

9.3.1 Codes for DST Fluid Recovery

The following are acceptable values for RECOVERIES-DST [RXXC] (recovery fluid codes). These descriptions/codes do not attempt to describe the extent to which the dispersed fluid exists. The code descriptions identify the *primary* recovery fluid and any *dispersed* fluids. In the table, the primary fluid is bolded.

The format used is: *dispersed fluid* cut *primary fluid*

Examples:

Gas cut mud (101) - Mud is the primary fluid recovered with gas dispersed in the mud.
Oil cut water (250) - Water is the primary fluid recovered with oil dispersed in the water.

Codes:

01	**Gas**
11	**Condensate**
12	Mud cut **Condensate**
13	Water cut **Condensate**
14	Salt Water cut **Condensate**
15	Brackish Water cut **Condensate**
16	Sulphurous Brackish Water cut **Condensate**
17	Sulphurous Salt Water cut **Condensate**
18	Mud & Water cut **Condensate**
19	Mud & Salt Water cut **Condensate**
20	Mud & Brackish Water cut **Condensate**
21	Mud & Sulphurous Salt Water cut **Condensate**
22	Mud & Sulphurous Brackish H2O cut **Condensate**
50	**Oil**
51	Gas cut **Oil**
52	Mud cut **Oil**, or
52	Mud & Gas cut **Oil**
53	Water cut **Oil**
54	Salt Water cut **Oil**
55	Brackish Water cut **Oil**
56	Sulphurous Brackish Water cut **Oil**
57	Sulphurous Salt Water cut **Oil**
58	Mud & H2O cut **Oil**
59	Mud & Salt H2O cut **Oil**
60	Mud & Brackish H2O cut **Oil**
61	Mud & Sulphurous Brackish H2O cut **Oil**
62	Mud & Sulphurous Salt H2O cut **Oil**
100	**Mud**
101	Gas/Condensate cut **Mud**
102	Oil cut **Mud**
103	Gas & Oil cut **Mud**
104	Water cut **Mud**
105	Fresh Water cut **Mud**
106	Brackish Water cut **Mud**
107	Salt Water cut **Mud**
108	Sulphurous Brackish Water cut **Mud**
109	Sulphurous Salt Water cut **Mud**
110	Gas & Oil & Water cut **Mud**
111	Gas & Water cut **Mud**
112	Oil & Water cut **Mud**
150	**Water**
151	**Fresh Water**
157	**Cloudy Water**
200	Gas cut **Water**
250	Oil cut **Water**
300	Oil & Gas cut **Water**
350	Mud cut **Water**
351	Mud cut **Fresh Water**
400	Mud & Gas cut **Water**
450	Mud & Oil / **Water**
500	Mud & Oil & Gas / **Water**

152	**Brackish Water**
201	Gas cut **Brackish Water**
251	Oil cut **Brackish Water**
301	Oil & Gas cut **Brackish Water**
352	Mud cut **Brackish Water**
401	Mud & Gas cut **Brackish Water**
451	Mud & Oil cut **Brackish Water**
501	Mud & Oil & Gas cut **Brackish Water**
153	**Salt Water**
202	Gas cut **Salt Water**
252	Oil cut **Salt Water**
302	Oil & Gas cut **Salt Water**
353	Mud cut **Salt Water**
402	Mud & Gas cut **Salt Water**
452	Mud & Oil cut **Salt Water**
502	Mud & Oil & Gas cut **Salt Water**
154	**Sulphurous Water**
203	Gas cut **Sulphurous Water**
253	Oil cut **Sulphurous Water**
303	Oil & Gas cut **SulphurousWater**
354	Mud cut **Sulphurous Water**
403	Mud & Gas cut **Sulphurous Water**
453	Mud & Oil cut **Sulphurous Water**
503	Mud & Oil & Gas cut **Sulphurous Water**
155	**Sulphurous Brackish Water**
204	Gas cut **Sulphurous Brackish H2O**
254	Oil cut **Sulphurous Brackish H2O**
304	Oil & Gas cut **Sulphurous Brackish H2O**
355	Mud cut **Sulphurous Brackish H2O**
404	Mud & Gas cut **Sulphurous Brackish H2O**
454	Mud & Oil cut **Sulphurous Brackish H2O**
504	Mud & Oil & Gas cut **Sulphurous Brackish H2O**
156	**Sulphurous Salt Water**
205	Gas cut **Sulphurous Salt Water**
255	Oil cut **Sulphurous Salt Water**
305	Oil & Gas cut **Sulphurous Salt Water**
356	Mud cut **Sulphurous Salt Water**
405	Mud & Gas cut **Sulphurous Salt Water**
455	Mud & Oil cut **Sulphurous Salt Water**
505	Mud & Oil & Gas cut **Sulphurous Salt Water**

9.4 Critical Edits for DSTs

Here are the generic ranges that have been set for PAS elements. All depth, pressure, temperature, rate elements will be edited to ensure they are within these ranges. However, the number of decimal places indicated here do not apply to raw data points, which generally provide for greater resolution, as indicated on the various PAS formats:

All Depths must be less than	7,000.00 M	rounded to 2 decimals
All Pressures must be less than	99,999.00 kPa	rounded to whole number

All Temperatures must be between	-100 and 1,000°C	rounded to whole number
All Times must be less than (except for DSTs which are reported in minutes, and raw data as indicated above)	100,000.0 H	rounded to 1 decimal
All gas production rates must be less than	100,000.00 E^3M^3/day	rounded to 2 decimals
All oil and water rates must be less than	100,000.00 M^3/day	rounded to 2 decimals

- WELL INFORMATION [UWI] (unique well identifier) location must exist on EUB system
- WELL INFORMATION [WLIC] (well license number) must match license number for this location
- WELL INFORMATION [WTYP] (well type indicator) must = "V", "D", or "H"
- TEST DATA [PRPS] (test purpose) flag must = "Y" or "N"
- If TEST DATA [PRPS] (test purpose) = "Y", then ANALYSIS – GENERAL INFORMATION [PEXTR] (representative extrapolated/false pressure) must be => [PRGA], and can not exceed [PRGA] by > 10%

  Since a DST does not provide 6 hours to check for pressure stability, all DSTs submitted to fulfil a pressure survey requirement must have analysis. If the pressure did stabilize during a DST, you can report the stabilized pressure in [PEXTR] and the test will pass certification.
- TEST DATA [DSTTY] (DST test type) must = "01", "02", or "07" (*although closed chamber tests can also be bottomhole or straddle, code "07" must be used to indicate a test that was run under closed chamber conditions. This is necessary to the logic for mandatory/optional elements.)*
- TEST DATA [TTOPL] (test interval top at log depth) must be > "0.0"
- TEST DATA [TBASL] (test interval base at log depth) must be => [TTOPL] (test interval top at log depth)
- TEST DATA [TTOPT] (test interval top at TVD) must be > "0.0". Can be blank if [PRPS] flag = "N"
- TEST DATA [TBAST] (test interval base at TVD) must be => [TTOPT] (test interval top at TVD). Can be blank if [PRPS] flag = "N"
- TEST DATA [FTDT] (final test date) must be > spud date and <= current date or abandoned date
- TEST DATA [MSRN] (test misrun indicator) must = "Y" or "N"
- If TEST DATA [MSRN] (test misrun indicator) = "Y", then [PRPS] (test purpose) flag must = "N"
- CUSHION [CUIS] (cushion indicator) must = "Y" or "N"
- If CUSHION [CUIS] (cushion indicator) = "Y",
  Then CUSHION [CUTP] (cushion type code) must = "1", "2", "3", or "4", and
  CUSHION [CULN] (cushion linear length) must be less than TEST DATA [TTOPL] (test interval top – log)

9.5 Non-Critical Edits for All DST Files

- RECOVERIES – DST [RPXX] (recovery volumes indicator) must = "V", "H", or "N"
- If RECOVERIES – DST [RPXX] (recovery volumes indicator) = "H", then the total of the first six recoveries DTREC [RPXX2] (recovery amount in meters) cannot exceed TEST DATA [TTOPL] (test interval top – log) by > 10 meters
  (Where more than six recoveries are submitted on this table, only the first six will be stored on EUB mainframe and included in this total. The entire table will be stored with the raw data file.)
- If FINAL FLOW RATES – DST [TFGS] (time for final flow gas to surface) is > "0.0",
  Then [TFGS] (time for final flow gas to surface) must be <
  FINAL FLOW RATES-DST [TDFF] (final flow duration minutes)
- If FINAL FLOW RATES – DST [TFOS] (time for final flow oil to surface) is > "0.0",
  Then [TFOS] (time for final flow oil to surface) must be <
  FINAL FLOW RATES-DST [TDFF] (final flow duration minutes)
- If FINAL FLOW RATES – DST [TFWS] (time for final flow water to surface) is > "0.0",
  Then [TFWS] (time for final flow water to surface) must be <
  FINAL FLOW RATES-DST [TDFF] (final flow duration minutes)
- FINAL FLOW RATES – DST [QGFF] (final gas flow rate) cannot be > [QGMX]
- TEST SUMMARY DATA [PRFFG] (flowing pressure at stop depth) cannot > [PRGA] (last measured or representative shut-in pressure
- HEADER DATA – GAUGE 1 (source gauge) [SDGA] (gauge stop depth) must be > "0.0", and < total well depth
- HEADER DATA – GAUGE 1 [SDGA] (gauge stop depth) cannot be:
  < TEST DATA [TTOPL] (test interval top) by more than 10 meters, and
  > TEST DATA [TBASL] (test interval base) by more than 10 meters
- TEST DATA [SERCO] (service company code) must = a code from table in Appendix D of Guide 52
- DTREC [RXXC] (fluid recovery type code) must = code from table in section 9.3.1 of Guide 52

9.5.1 Additional Non-Critical Edits for DST Files if [PRPS] Flag = "Y"

- WELL INFORMATION [WSFL] (well fluid status) must be a valid code as per the table in section 6.1.1 of Guide 52
- TEST DATA [TTOPT] (test top at TVD) cannot be greater than total well depth
- TEST DATA [TBAST] (test base at TVD) cannot be greater than total well depth
- TEST DATA [TTOPL] (test top at log depth) cannot be greater than total well depth
- TEST DATA [TBASL] (test base at log depth) cannot be greater than total well depth

- HEADER DATA – GAUGE 1 (source gauge) [SDGA] (gauge stop depth) must be > 100, and < total well depth
- TEST SUMMARY DATA [PRGA] (run depth pressure) must be > "0.0" and < 99,999 kPa
- TEST SUMMARY DATA [GRSD] (run depth gradient) must be > "0.0" and <16.0 kPa/Meter
- TEST DATA [FCSPS] (final casing pressure) must be < 35,000 kPa. Can be zero
- ANALYSIS – GENERAL INFORMATION [PEXTR] (representative extrapolated/false pressure) must be > TEST SUMMARY DATA [PRGA] (run depth pressure) and < 99,999 kPa , but cannot exceed [PRGA] by more than 5%, as per Guide 40

  (DST has a critical edit to reject any tests submitted as initial pressures where the difference between [PRGA] and [PEXTR] exceeds 10%. Tests where the difference is between 5% and 10% will not be rejected outright, but flagged for possible follow-up, depending upon the severity, whether or not it is an initial pool pressure, etc.)

9.6 DST TIFF File

A TIFF file is required for the DST charts, any other test charts from analog recorders, pressure/time charts, tool diagrams, and full blow descriptions with rate tables. It can also be used to report any other parameters not included in the PAS format. The TIFF file should also include any other charts, graphs, plots or text from analysis. If [PRPS] flag = "Y", indicating the test is submitted to fulfil initial pressure survey requirements, a Horner plot must be included in the TIFF file.

9.7 DST-PAS Format

The actual DST-PAS format is detailed on the following nine pages. This format may not be the latest version. All users should check the EUB website to find the latest version of PAS formats. Dates are included on the formats to determine the most recent version.

#NOTE: Definition [NUMB A,B] indicates A total digits, with B digits after the decimal (e.g.: [NUMB 5,2] = 123.45) *Release Date: December 31, 1998*

~ VERSION

# MNEM. UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
TYPE.	PAS-DST	[CHAR 7]	DIGITAL DATA - DRILL STEM TEST	Gauge - Drill Stem Test, format
UNIT.	M	[CHAR 1]	UNITS FLAG	Metric Units for EUB submission
VERS.	2.1	[NUMB 5,2]	CIM/EUB DIGITAL WELL TEST DATA	Current CIM/EUB version for ASCII test data submission

~WELL INFORMATION

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
COMP.	M	[CHAR 60]	COMPANY NAME	Licensee Name
UWI .	M	[CHAR 20]	UNIQUE WELL ID	Unique well identifier - bottomhole location
WLIC.	M	[CHAR 9]	EUB WELL LICENSE NUMBER	EUB Well License Number
FORM.	M	[CHAR 20]	FORMATION NAME	Name of the geological formation/zone
WSFL.	MO	[NUMB 2]	WELL FLUID STATUS AT TEST DATE	Type of production/pay or reservoir, per EUB Guide 52 (i.e. oil, gas, water)
WSMO.	O	[NUMB 2]	WELL MODE STATUS AT TEST DATE	Current producing status of well, per EUB Guide 52 (i.e. suspended, abandoned)
WSTY.	O	[NUMB 2]	WELL TYPE STATUS AT TEST DATE	Type of well, per EUB Guide 52 (i.e. disposal, injection, source)
WTYP.	M	[CHAR 1]	WELL TYPE INDICATOR	Flag indicating (V)ertical, (D)eviated, or (H)orizontal Wellbore
WHDP.M	O	[NUMB 10,5]	WHIPSTOCK DEPTH M KB (TVD)	Depth of whipstock
HLID.MM	M	[NUMB 4,1]	HOLE DIAMETER MM	Inside diameter of hole
PCID.MM	O	[NUMB 4,1]	PRODUCTION CASING ID MM	Inside diameter of production casing
DPID.MM	M	[NUMB 4,1]	DRILL PIPE ID MM	Inside diameter of drill pipe
TD.M	O	[NUMB 10,5]	TOTAL DEPTH M KB LOG	Total well depth at time of test in log measurement

~TEST DATA

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
PRPS.	M	[CHAR 1]	TEST PURPOSE	Flag indicating submission for, EUB initial survey requirements (Y)es or (N)o
DSTTY.	M	[NUMB 2]	DST TEST TYPE CODE	DST test type code as per EUB Guide 52
TTNC.	O	[CHAR 20]	TEST TYPE NAME	Description type of test conducted
SRCE.	O	[CHAR 12]	SOURCE OF THIS DATA	DST identification i.e. Test 1 of 2
TNUM.	M	[NUMB 4]	DST NUMBER	DST number (i.e. DST no. 3)
SERCO.	M	[CHAR 5]	SERVICE COMPANY CODE	Company conducting test (code per EUB Guide 52)
TTOPL.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL TOP M KB (LOG)	Top of tested or producing interval at log depth
TBASL.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL BASE M KB (LOG)	Base of tested or producing interval at log depth
TTOPT.M	MO	[NUMB 10,5]	TEST/PROD. INTERVAL TOP M KB (TVD)	Top of tested or producing interval at true vertical depth
TBAST.M	MO	[NUMB 10,5]	TEST/PROD. INTERVAL BASE M KB (TVD)	Base of tested or producing interval at true vertical depth
HOLC.	O	[CHAR 240]	HOLE CONDITION	Comment on condition of borehole during test
TSUR.DEGC	O	[NUMB 5,2]	SURFACE TEMPERATURE DEGC	Temperature at surface
TUPS.KPAA	O	[NUMB 8,2]	INITIAL TUBING PRESSURE KPAA	Tubing pressure at start of test
CSPS.KPAA	O	[NUMB 8,2]	INITIAL CASING PRESSURE KPAA	Casing pressure at start of test
FTUPS.KPAA	O	[NUMB 8,2]	FINAL TUBING PRESSURE KPAA	Tubing pressure at end of test
FCSPS.KPAA	O	[NUMB 8,2]	FINAL CASING PRESSURE KPAA	Casing pressure at end of test
TPCK.MM	O	[NUMB 4,1]	TOP CHOKE SIZE MM	Surface choke size
BTCK.MM	O	[NUMB 4,1]	BOTTOM CHOKE SIZE MM	Bottomhole choke size
STRT.DAY/HR	O	[YYYY MM DD HHHH]	START DATE/TIME OF TEST	Date/time test started (i.e. run in hole)
OPEN.DAY/HR	O	[YYYY MM DD HHHH]	TIME TOOL OPENED	Time tool opened in test interval (start of preflow)
FTDT.DAY/HR	M	[YYYY MM DD HHHH]	FINAL TEST DATE/TIME	Date/time test of test (i.e. ended)

```
  MSRN.            M          [CHAR 1]       TEST MISRUN INDICATOR                         Flag indicating misrun test (Y)es or (N)o
  CCCO.            O          [CHAR 20]      CLOSED CHAMBER COMPANY                        Closed chamber test company name

~TEST SUMMARY DATA
# MNEM.UNIT      MANDATORY    DEFINITION     DESCRIPTION OF MNEMONIC                       EXPLANATION
# ------------   ----------   ----------     ---------------------------------             --------------------
  GSER.            M          [CHAR 20]      GAUGE SERIAL NUMBER                           Serial number of source gauge (must be gauge #1)
  BSW.FRACTION     O          [NUMB 4,3]     BASIC SAND AND WATER PERCENTAGE               Total percentage of basic sediment and water
  VCON.M3          O          [NUMB 13,4]    AMOUNT OF CONDENSATE PRODUCED                 Condensate produced during test
  TRES.DEGC        O          [NUMB 5,2]     RESERVOIR TEMPERATURE DEGC                    Reservoir temperature
  SDGA.M           M          [NUMB 10,5]    REPRESENTATIVE STOP DEPTH M (TVD)             Gauge stop depth representative of reservoir
  PRGA.KPAA        M/O        [NUMB 8,2]     PRESSURE AT STOP DEPTH M KB (TVD)             Last measured or representative shut-in pressure kPaa
  PRFFG.KPAA       M/O        [NUMB 8,2]     FLOWING PRESSURE AT STOP DEPTH M KB (TVD)     Final measured flowing pressure kPaa
  VGAS.E3M3        O          [NUMB 13,4]    GAS FLOWED DURING TEST                        Volume of gas flowed during test
  H2S.FRACTION     O          [NUMB 5,4]     H2S CONTENT                                   H2S content of gas produced during test
  VOIL.M3          O          [NUMB 13,4]    OIL PRODUCED DURING TEST M3                   Volume of oil produced during test
  SGO.             O          [NUMB 6,2]     OIL SPECIFIC GRAVITY                          Specific gravity of oil produced during test
  VWTR.M3          O          [NUMB 13,4]    WATER PRODUCED DURING TEST                    Volume of water produced during test
  WCF.FRACTION     O          [NUMB 4,3]     FINAL WATER CUT                               Fraction of water volume produced from well
  DOIL.KG/M3       O          [NUMB 6,2]     OIL DENSITY                                   Density of oil in wellbore
  RSLTC.           O          [CHAR 240]     TEST RESULT QUALITY COMMENT                   (i.e. misrun, mud level drop, tool skid, blow)
  GRSD.KPA/M       MO         [NUMB 5,3]     REPRESENTATIVE PRESSURE GRADIENT              Average representative gradient between gauge depth and mid-formation

~ DRILL MUD AND RECOVERIES
# MNEM. UNIT     MANDATORY    DEFINITION     DESCRIPTION OF MNEMONIC                       EXPLANATION
# ------------   ----------   ----------     ---------------------------------             --------------------
  MUTP.            M          [CHAR 12]      MUD TYPE                                      Identify fluid used to drill well
  MURS.OHM         O          [NUMB 8,4]     MUD RESISTIVITY                               Surface measurement of the drilling fluid resistively
  MUSL.PPM         O          [NUMB 8,2]     MUD SALINITY                                  The measurement of dissolved salts in the drilling mud
  MUWT.KG/M3       O          [NUMB 9,4]     MUD WEIGHT                                    The measurement of the drilling mud mass/volume
  MTST.            M          [CHAR 1]       MULTIPLE TEST RECOVERY INDICATOR              Flag indicating recovery from multiple tests (Y)es or (N)o

~ CUSHION
# MNEM. UNIT     MANDATORY    DEFINITION     DESCRIPTION OF MNEMONIC                       EXPLANATION
# ------------   ----------   ----------     ---------------------------------             --------------------
  CUIS.            M          [CHAR 1]       CUSHION USED                                  Flag indicating use of cushion (Y)es or (N)o
  CUTP.            MO         [NUMB 1]       CUSHION TYPE CODE                             Code as per EUB Guide 52 (i.e. water, N2, etc.)
  CUTC.            O          [CHAR 12]      CUSHION FLUID TYPE DESCRIPTION                Type of fluid pumped in
  CUGP.KPAA        O          [NUMB 8,2]     CUSHION GAS PRESSURE KPAA                     Surface Pressure Pumped In
  CUVL.M3          O          [NUMB 13,4]    CUSHION VOLUME                                Total volume pumped in
  CUIV.M3          O          [NUMB 13,4]    CUSHION INHIBITOR VOLUME                      Volume of inhibitor pumped in
  CULN.M           MO         [NUMB 10,5]    CUSHION LINEAR LENGTH                         Metres of fluid pumped in
  CUIL.M           MO         [NUMB 10,5]    INITIAL CUSHION LENGTH M                      The length of cushion present during test
  LCGR.KPA/M       MO         [NUMB 5,3]     LIQUID CUSHION GRADIENT KPAA/M                Gradient of liquid portion of cushion
  VNCM.M3          MO         [NUMB 13,4]    NET CHAMBER VOLUME M3                         Total Volume minus Cushion Volume
```

~ FIRST FLOW RATES - DST

# MNEM. UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
TSPF.DAY/HR	O	[YYYY MM DD HHHH]	PREFLOW START TIME	Date and time preflow started
TDPF.MIN	O	[NUMB 10,5]	PREFLOW DURATION MINUTES	Length of preflow period
QGPF.E3M3/D	O	[NUMB 13,4]	PREFLOW GAS FLOW RATE E3M3/DAY	Gas rate at end of preflow
QOPF.M3/D	O	[NUMB 13,4]	PREFLOW OIL FLOW RATE M3/DAY	Oil rate at end of preflow
QWPF.M3/D	O	[NUMB 13,4]	PREFLOW WATER FLOW RATE M3/DAY	Water rate at end of preflow
TPGS.MIN	O	[NUMB 10,5]	TIME FOR PREFLOW GAS TO SURFACE MIN	Length of time for gas to reach surface, minutes
TPOS.MIN	O	[NUMB 10,5]	TIME FOR PREFLOW OIL TO SURFACE MIN	Length of time for oil to reach surface, minutes
TPWS.MIN	O	[NUMB 10,5]	TIME FOR PREFLOW WATER TO SURFACE MIN	Length of time for water to reach surface, minutes

~ SECOND FLOW RATES - DST

# MNEM. UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
TS2F.DAY/HR	O	[YYYY MM DD HHHH]	SECOND FLOW START TIME DATE	Date and time second flow started
TD2F.MIN	O	[NUMB 10,5]	SECOND FLOW DURATION MINUTES	Length of second flow period
QG2F.E3M3/D	O	[NUMB 13,4]	SECOND GAS FLOW RATE E3M3/DAY	Gas rate at end of second flow
QO2F.M3/D	O	[NUMB 13,4]	SECOND OIL FLOW RATE M3/DAY	Oil rate at end of second flow
QW2F.M3/D	O	[NUMB 13,4]	SECOND WATER FLOW RATE M3/DAY	Water rate at end of second flow
TIGS.MIN	O	[NUMB 10,5]	TIME FOR INITIAL FLOW GAS TO SURFACE MIN	Length of time for gas to reach surface, minutes
TIOS.MIN	O	[NUMB 10,5]	TIME FOR INITIAL FLOW OIL TO SURFACE MIN	Length of time for oil to reach surface, minutes
TIWS.MIN	O	[NUMB 10,5]	TIME FOR INITIAL FLOW WTR TO SURFACE MIN	Length of time for water to reach surface, minutes

~ FINAL FLOW RATES - DST

# MNEM. UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
TSFF.DAY/HR	O	[YYYY MM DD HHHH]	FINAL FLOW START TIME DATE	Date and time main flow started
TDFF.MIN	O	[NUMB 10,5]	FINAL FLOW DURATION MINUTES	Length of main flow period
QGFF.E3M3/D	O	[NUMB 13,4]	FINAL GAS FLOW RATE E3M3/DAY	Gas rate at end of main flow
QOFF.M3/D	O	[NUMB 13,4]	FINAL OIL FLOW RATE M3/DAY	Oil rate at end of main flow
QWFF.M3/D	O	[NUMB 13,4]	FINAL WATER FLOW RATE M3/DAY	Water rate at end of main flow
QGMX.E3M3/D	O	[NUMB 13,4]	MAXIMUM GAS FLOW RATE E3M3/DAY	Maximum gas flow rate
QOMX.M3/D	O	[NUMB 13,4]	MAXIMUM OIL FLOW RATE M3/DAY	Maximum oil flow rate
QWMX.M3/D	O	[NUMB 13,4]	MAXIMUM WATER FLOW RATE M3/DAY	Maximum water flow rate
TFGS.MIN	O	[NUMB 10,5]	TIME FOR FINAL FLOW GAS TO SURFACE MIN	Length of time for gas to reach surface, minutes
TFOS.MIN	O	[NUMB 10,5]	TIME FOR FINAL FLOW OIL TO SURFACE MIN	Length of time for oil to reach surface, minutes
TFWS.MIN	O	[NUMB 10,5]	TIME FOR FINAL FLOW WTR TO SURFACE MIN	Length of time for water to reach surface, minutes

~ RECOVERIES - DST

# MNEM. UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
RPXX.M OR M3	M	[CHAR 1]	RECOVERY VOLUMES INDICATOR	Flag indicating (V)olume in cubic metres, (H)eight metres, or (N)one

```
~ DATA TABLE – RECOVERIES
# {DTREC - DEFINITIONS AND DESCRIPTIONS IN ASSOCIATION WITH DTREC TABLE}
# {TABLE DTREC CAN BE OMITTED IF RPXX = "N"}
# MNEM. UNIT        MANDATORY     DEFINITION          DESCRIPTION OF MNEMONIC            EXPLANATION
# ---------------   ----------    ----------          --------------------------         ------------------------
  RXX2.M or M3          M         [NUMB 13,4]         RECOVERY AMOUNT M OR M3            Amount of recovery in volume or height as indicated above (see RPXX)
  RXXC.                 M         [NUMB 3]            RECOVERY TYPE CODE                 Recovery type, code as per EUB Guide 52
  RXXD.                 M         [CHAR 30]           RECOVERIES DESCRIPTION             Description of recoveries

~DTREC          RXX2.              RXXC        RXXD
#               ---------------    ----        ------------------------------------
                999999999.9999     999         XXXXXXXXXXXXXXXXXXXX
                999999999.9999     999         XXXXXXXXXXXXXXXXXXXX
                999999999.9999     999         XXXXXXXXXXXXXXXXXXXX

~ HEADER DATA – GAUGE(1)
# {SOURCE GAUGE MUST BE ADDRESSED AS GAUGE 1, SEE  DTG(1) BELOW}
# MNEM. UNIT        MANDATORY     DEFINITION          DESCRIPTION OF MNEMONIC            EXPLANATION
# ---------------   -----------   -------------       -----------------------------      ------------------------
  MSRN.                 M         [CHAR 1]            GAUGE MISRUN INDICATOR             Flag indicating gauge misrun (Y)es or (N)o
  GSER.                 M         [CHAR 20]           GAUGE SERIAL NUMBER                Serial number of source gauge, (must be gauge #1)
  GTYP.                 M         [CHAR 30]           GAUGE TYPE                         Type of gauge used (mechanical or electronic, model)
  GMAN.                 M         [CHAR 60]           GAUGE MANUFACTURER                 Name of manufacturer of source gauge
  GRNG.KPAA             M         [NUMB 8,2]          MAXIMUM RECORDER RANGE KPAA        Full scale pressure range of source gauge
  GCAL.DAY              M         [YYYY MM DD]        DATE OF LAST CALIBRATION           Date source gauge last calibrated
  GRES.                 O         [NUMB 6,5]          PUB. RESOLUTION % OF FULL-SCALE    Published  resolution of source gauge
  GACC.                 O         [NUMB 6,5]          PUB. ACCURACY % OF FULL-SCALE      Published  accuracy of source gauge
  SDGA.M                M         [NUMB 10,5]         GAUGE RUN DEPTH M KB (TVD)         Source gauge run depth
  GPOS.                 M         [CHAR 1]            GAUGE POSTION INDICTOR             Flag – (I)nside,(O)utside, (F)luid/Recovery, (B)elow Straddle, or (U)nknown/Other

~ FLOW SUMMARY DATA TABLE - GAUGE (1)
# {DTFG(1) - DEFINITIONS AND DESCRIPTIONS IN ASSOCIATION WITH "SOURCE GAUGE" DTFG(1) TABLE}
# MNEM. UNIT        MANDATORY     DEFINITION          DESCRIPTION OF MNEMONIC            EXPLANATION
# ---------------   ----------    ----------          --------------------------         ------------------------
  STGE.                 M         [CHAR 2]            STAGE NUMBER                       Test stage number
  FSTGC.                M         [CHAR 22]           STAGE DESCRIPTION                  (i.e. Initial Hydrostatic, Start of 1st Flow)
  PRGA.KPAA             M         [NUMB 8,2]          GAUGE PRESSURE KPAA                Primary Gauge pressure
  TSTD.MIN            . M         [NUMB 10,5]         STAGE DURATION MINUTES             Duration of stage

~ DTFG(1)       STGE          FSTGC                                   PRGA           TSTD
#               ----          ------------------------------------    -----------    ------------
                XX            XXXXXXXXXXXXXXXXXXXXXX                  999999.99      99999.99999
                XX            XXXXXXXXXXXXXXXXXXXXXX                  999999.99      99999.99999
                XX            XXXXXXXXXXXXXXXXXXXXXX                  999999.99      99999.99999
```

```
~ DATA TABLE - GAUGE (1)
# {DTG(1) - DEFINITIONS AND DESCRIPTIONS IN ASSOCIATION WITH "SOURCE GAUGE " DATA TABLE}
# MNEM UNIT      MANDATORY      DEFINITION        DESCRIPTION OF MNEMONIC                     EXPLANATION
# -------------  -------------  --------------    ----------------------------------------   --------------------------
  TCUM.MIN             M        [NUMB 10,5]       GAUGE CUMULATIVE TIME MINUTES               Cumulative time (source gauge, minutes) from test start time (i.e. [STRT])
  PRGA.KPAA            M        [NUMB 8,2]        GAUGE PRESSURE KPAA                         Pressure measured at that interval in time via source gauge
  TGA.DEGC             M        [NUMB 5,2]        GAUGE TRANSIENT TEMPERATURE DEGC            Temperature measured at that interval in time via source gauge

~ DTG(1)        TCUM           PRGA              TGA
#               ------------   ----------        ------
                99999.99999    999999.99         999.99
                99999.99999    999999.99         999.99
                99999.99999    999999.99         999.99


~ HEADER DATA - GAUGE (n)
# {SUBSEQUENT/SECDONDARY GAUGE(S)}
# {HEADER DATA AND TABLE DTFG(n) AND DTG(n) CAN BE OMITTED IF SUBSEQUENT/SECONDARY GAUGES MISRUN}
# MNEM. UNIT     MANDATORY      DEFINITION        DESCRIPTION OF MNEMONIC                     EXPLANATION
# -------------  -------------  --------------    ----------------------------------------   --------------------------
  MSRN.                M        [CHAR 1]          GAUGE MISRUN INDICATOR                      Flag indicating gauge misrun (Y)es or (N)o
  GSER.                M        [CHAR 20]         GAUGE SERIAL NUMBER                         Serial number of gauge
  GTYP.                M        [CHAR 30]         GAUGE TYPE                                  Type of gauge used (mechanical or electronic, model)
  GMAN.                M        [CHAR 60]         GAUGE MANUFACTURER                          Name of manufacturer
  GRNG.KPAA            M        [NUMB 8,2]        MAXIMUM RECORDER RANGE KPAA                 Full scale pressure range
  GCAL.DAY             M        [YYYY MM DD]      DATE OF LAST CALIBRATION                    Date gauge last calibrated
  GRES.                O        [NUMB 6,5]        PUB. RESOLUTION % OF FULL-SCALE             Published gauge resolution
  GACC.                O        [NUMB 6,5]        PUB. ACCURACY % OF FULL-SCALE               Published gauge accuracy
  SDGA.M               M        [NUMB 10,5]       GAUGE RUN DEPTH M KB (TVD)                  Gauge run depth
  GPOS.                M        [CHAR 1]          GAUGE POSTION INDICTOR                      Flag – (I)nside,(O)utside, (F)luid/Recovery, (B)elow Straddle, or (U)nknown/Other

~ FLOW SUMMARY DATA TABLE - GAUGE (n)
# {DTFG(n) - DEFINITIONS AND DESCRIPTIONS IN ASSOCIATION WITH SUBSEQUENT DTFG TABLES}
# {TABLE DTFG(n) CAN BE OMITTED IF SUBSEQUENT/SECDONDARY GAUGES MISRUN}
# MNEM. UNIT     MANDATORY      DEFINITION        DESCRIPTION OF MNEMONIC                     EXPLANATION
# -------------  ----------     ------------      --------------------------                  --------------------------
  STGE.                M        [CHAR 2]          STAGE NUMBER                                Test stage number
  FSTGC.               M        [CHAR 22]         STAGE DESCRIPTION                           (i.e. Initial Hydrostatic, Start of 1st Flow)
  PRGA.KPAA            M        [NUMB 8,2]        GAUGE PRESSURE KPAA                         Subsequent/secondary gauge pressure
  TSTD.MIN             M        [NUMB 10,5]       STAGE DURATION MINUTES                      Duration of stage

~ DTFG(n)       STGE        FSTGC                                   PRGA           TSTD
#               ---         ------------------------------------    ----------     ------------
                XX          XXXXXXXXXXXXXXXXXXXXXX                  999999.99      99999.99999
                XX          XXXXXXXXXXXXXXXXXXXXXX                  999999.99      99999.99999
                XX          XXXXXXXXXXXXXXXXXXXXXX                  999999.99      99999.99999
```

```
~ DATA TABLE - GAUGE (n)
# {DTG(n) - DEFINITIONS AND DESCRIPTIONS IN ASSOCIATION WITH SUBSEQUENT DTG TABLE(S)}
# {TABLE DTG(n) CAN BE OMITTED IF SUBSEQUENT/SECDONDARY GAUGES MISRUN}
# MNEM UNIT        MANDATORY      DEFINITION       DESCRIPTION OF MNEMONIC                     EXPLANATION
# -------------    ------------   -------------    ----------------------------------------    ------------------------
  TCUM.MIN              M         [NUMB 10,5]      GAUGE CUMULATIVE TIME MINUTES               Cumulative time (secondary gauge, minutes) from test start time (i.e. [STRT])
  PRGA.KPAA             M         [NUMB 8,2]       GAUGE PRESSURE KPAA                         Pressure measured at that interval in time
  TGA.DEGC              M         [NUMB 5,2]       GAUGE TRANSIENT TEMPERATURE DEGC            Temperature measured at that interval in time

 ~ DTG(n)      TCUM               PRGA             TGA
#              -----------        ----------       ------
               99999.99999        999999.99        999.99
               99999.99999        999999.99        999.99
               99999.99999        999999.99        999.99

~ ANALYSIS - GENERAL INFORMATION
# MNEM.UNIT       MANDATORY        DEFINITION       DESCRIPTION OF MNEMONIC                     EXPLANATION
# -------------   -------------    -------------    ----------------------------------------    ------------------
  ADAT.DAY             O           [YYYY MM DD]     DATE ANALYSIS COMPLETED
  ANCO.                O           [CHAR 20]        COMPANY CONDUCTING ANALYSIS                 Name of firm that conducted analysis
  ANAM.                O           [CHAR 20         ANALYST'S NAME                              Name of person conducting analysis
  PHASE.               O           [CHAR 1]         DOMINANT PHASE USED IN ANALYSIS             Flag indicating phase dominant for analysis (O)il, (G)as, (W)ater
  GENC.                O           [CHAR 50]        GENERAL UNSPECIFIED COMMENT                 Free form general comment (i..e. about pressure,  recoveries, etc.)
  PEXTR.KPAA          MO           [NUMB 8,2]       REPRESENTATIVE EXTRAP/ FALSE PRESSURE       Commonly known as P* kPaa (carried from representative analysis)

~ ANALYSIS - INPUT PARAMETERS
# MNEM.UNIT       MANDATORY        DEFINITION       DESCRIPTION OF MNEMONIC                     EXPLANATION
# -------------   -------------    -------------    ----------------------------------------    ------------------
  SATW.FRACTION      O             [NUMB 3,2]       ASSUMED WATER SATURATION FRACTION           Water saturation assumed for this analysis
  SATG.FRACTION      O             [NUMB 3,2]       ASSUMED GAS SATURATION FRACTION             Gas saturation assumed for this analysis
  SATO.FRACTION      O             [NUMB 3,2]       ASSUMED OIL SATURATION FRACTION             Oil saturation assumed for this analysis
  HZFL.M            MO             [NUMB 10,5]      HORIZONTAL WELL LENGTH IN FORMATION M       Must be >0, if [WTYP] = "H" and [PRPS] = "Y"
  PAY.M              O             [NUMB 10,5]      VERTICAL HEIGHT OF FORMATION M              Net pay or height of formation
  PORO.FRACTION      O             [NUMB 4,3]       ASSUMED POROSITY FRACTION                   Porosity of reservoir assumed for this analysis
  RADW.MM            O             [NUMB 4,1]       WELLBORE RADIUS  MM                         Radius of the wellbore
  GEOC.              O             [CHAR 240]       GEOLOGICAL COMMENTS                         Free form for geological comments

~ ANALYSIS - FLUID PROPERTIES
# MNEM.UNIT       MANDATORY        DEFINITION       DESCRIPTION OF MNEMONIC                     EXPLANATION
# -------------   -------------    -------------    ----------------------------------------    ------------------
  PPVT.KPAA            O           [NUMB 8,2]       PVT REFERENCE PRESSURE KPAA                 Reference Pressure derived from PVT analysis
  RDOIL.               O           [NUMB 4,3]       OIL RELATIVE DENSITY                        Oil relative density to water (unit-less)
  RDGAS.               O           [NUMB 4,3]       GAS RELATIVE DENSITY                        Gas relative density to air (unit-less)
  RDWTR.               O           [NUMB 4,3]       WATER RELATIVE DENSITY                      Water relative density to water (unit-less)
  CT.KPA-1             O           [NUMB 9,8]       TOTAL COMPRESSIBILITY KPA                   Total compressibility, kPa^-1
  UOIL.MPAS            O           [NUMB 12,8]      OIL VISCOSITY                               Viscosity of oil
  UGAS.MPAS            O           [NUMB 9,8]       GAS VISCOSITY                               Viscosity of gas
```

Z.	O	[NUMB 4,2]	GAS DEVIATION FACTOR	
BO.RM3/M3	O	[NUMB 4,2]	OIL FORMATION VOLUME FACTOR	Oil shrinkage factor from surface to reservoir conditions
RS.M3/M3	O	[NUMB 7,2]	OIL SOLUTION GOR	Solution gas oil ratio
PBP.KPAA	O	[NUMB 8,2]	OIL BUBBLE POINT PRESSURE KPAA	Bubble point pressure of oil

~ ANALYSIS - INTERPRETATION HEADER (n)

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
ANUM.	O	[NUMB 2]	ANALYSIS NUMBER	Number assigned for each analysis (use 1 for most likely case)
TFLO.MIN	O	[NUMB 10,5]	FLOW TIME PERIOD BEFORE BUILDUP MINUTES	Time of proceeding flow period
PWF.KPAA	O	[NUMB 8,2]	SANDFACE FLOWING PRESSURE AT SHUT-IN	Flowing sandface pressure at time of shut-in kPaa
QOIL.M3/D	O	[NUMB 13,4]	OIL FLOW RATE PRIOR TO BUILDUP	Flowing oil production rate before shut-in
QGAS.E3M3/D	O	[NUMB 13,4]	GAS FLOW RATE PRIOR TO BUILDUP	Recombined for condensate
QWTR.M3/D	O	[NUMB 13,4]	WATER FLOW RATE PRIOR TO BUILDUP	Flowing water production rate prior to shut-in
TEVN.MIN	O	[NUMB 10,5]	DURATION OF BUILDUP MINUTES	Duration of shut-in period used for analysis
GSER.	O	[CHAR 20]	GAUGE SERIAL NUMBER	Serial number of gauge used for analysis
MODLC.	O	[CHAR 240]	MODEL USED FOR ANALYSIS COMMENT	Describe type of model used to analyze data
PHASC.	O	[CHAR 240]	MULTI OR SINGE PHASE COMMENT	Comment on assumption of flow regime in reservoir
KH.MD	O	[NUMB 8,2]	CALCULATED FLOW CAPACITY	Flow capacity (e.g. use limiting KH on composite model)
KHC.	O	[CHAR 240]	COMMENT ON KH	Comment section for KH, gas, oil, water, etc.
STORC.M3/KPA	O	[NUMB 10,9]	WELLBORE STORAGE CONSTANT	Constant used for wellbore storage in calculations
SKIN	O	[NUMB 5,2]	CALCULATED SKIN FACTOR	Skin factor calculated from analysis
SKINC.	O	[CHAR 240]	COMMENTS ON TURBULENCE	Comments on artial penetration, etc
LMP.KPAA	O	[NUMB 8,2]	LAST MEASURED PRESSURE AT MPP (TVD)	Last measured (or most representative) pressure from source gauge kPaa
LMPC.	O	[CHAR 240]	SOURCE OF LAST MEASURED PRESSURE	Comment on last measured pressure point used above.
PEXTR.KPAA	O	[NUMB 8,2]	EXTRAPOLATED/FALSE PRESSURE AT MPP TVD	Commonly known as P*, kPaa
HTIM.MIN	O	[NUMB 10,5]	HORNER PRODUCING TIME - MINUTES	Assumed producing time for Horner time minutes

~TEST DATA - CLOSED CHAMBER

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
SRCE.	O	[CHAR 12]	SOURCE OF THIS DATA	DST identification i.e. Test 1 of 2
RSLTC.	O	[CHAR 240]	TEST REMARK + BLOW DESCRIPTION	Free form for comments
TCHA.DEGC	MO	[NUMB 5,2]	AVERAGE TEMPERATURE DEGC	Average temperature of chamber
PCHSI..KPAA	MO	[NUMB 8,2]	INITIAL CHAMBER SURFACE PRESSURE KPAA	Surface chamber pressure at start of test
PIGN.KPAA	MO	[NUMB 8,2]	INITIAL GAS/N2 HEAD PRESSURE KPAA	Initial hydrostatic head of gas
PTCU.KPAA	MO	[NUMB 8,2]	INITIAL TOTAL CUSHION PRESSURE KPAA	Total initial pressure of cushion
TPCK.MM	MO	[NUMB 4,1]	TOP CHOKE SIZE DESCRIPTION MM	Surface choke size, mm
CKSZ.MM	MO	[NUMB 4,1]	DOWNHOLE CHOKE SIZE DESCRIPTION MM	Bottomhole choke size, mm
CKCO.M3/D/KPA	O	[NUMB 8,2]	DOWNHOLE CHOKE COEFFICIENT M3/D/KPA	
VCHT.M3	MO	[NUMB 13,4]	TOTAL CHAMBER VOLUME M3	Total volume capacity of chamber
IGCF.M3/D/KPA/MIN	MO	[NUMB 6,1]	INITIAL GAS CONVERSION FACTOR	
IGSF.M3/D/KPA/MIN	MO	[NUMB 6,1]	INITIAL GAS SAT'D H2O CONV FACTOR	
LICF.M3/D/KPA/MIN	MO	[NUMB 6,1]	PURE LIQ INFLUX CONVERSION FACTOR	

```
~ DRILL STRING DESCRIPTION
# MNEM. UNIT        MANDATORY     DEFINITION      DESCRIPTION OF MNEMONIC                        EXPLANATION
# --------          ----------    ---------       -------------------------                      -------------------------
  DRCL.M                O         [NUMB 8,2]      DRILL COLLAR LENGTH M
  DCID.MM               O         [NUMB 4,1]      DRILL COLLAR INTERNAL DIAMETER MM
  DCCP.M3/M             O         [NUMB 8,7]      DRILL COLLAR CAPACITY M3/M
  DCVL.M3               O         [NUMB 13,4]     DRILL COLLAR VOLUME M3
  LDPL.M                O         [NUMB 10,5]     LOWER DRILL PIPE LENGTH M
  LDID.MM               O         [NUMB 4,1]      LOWER DRILL PIPE INT DIAMETER MM
  LDPC.M3/M             O         [NUMB 8,7]      LOWER DRILL PIPE CAPACITY M3/M
  LDPV.M3               O         [NUMB 13,4]     LOWER DRILL PIPE VOLUME M3
  UDPL.M                O         [NUMB 10,5]     UPPER DRILL PIPE LENGTH M
  UDID.MM               O         [NUMB 4,1]      UPPER DRILL PIPE INT DIAMETER MM
  UDPC.M3/M             O         [NUMB 8,7]      UPPER DRILL PIPE CAPACITY M3/M
  UDPV.M3               O         [NUMB 13,4]     UPPER DRILL PIPE VOLUME M3

~ FIRST RATES AND RECOVERIES
# MNEM. UNIT        MANDATORY     DEFINITION      DESCRIPTION OF MNEMONIC                        EXPLANATION
# ---------         ----------    ---------       -------------------------                      -------------------------
  VPAN.E3M3             O         [NUMB 13,4]     TOTAL PREFLOW AIR/N2 VOLUME M3
  LPAN.M                O         [NUMB 10,5]     TOTAL PREFLOW AIR/N2 LENGTH M
  PPAN.KPAA             O         [NUMB 8,2]      TOTAL PREFLOW AIR/N2 PRESSURE KPAA
  VPR.M3                O         [NUMB 13,4]     TOTAL PREFLOW RECOVERY VOLUME M3
  PASV.M3               O         [NUMB 13,4]     TOTAL PREFLOW SHUT-IN AIR/N2 VOLUME M3
  PASL.M                O         [NUMB 10,5]     TOTAL PREFLOW SHUT-IN AIR/N2 LENGTH M
  PASP.KPAA             O         [NUMB 8,2]      TOTAL PREFLOW SHUT-IN AIR/N2 PRESS KPAA
  PFSV.M3               O         [NUMB 13,4]     TOTAL PREFLOW SHUT-IN RECOVERY VOL M3

~ SECOND FLOW RATES AND RECOVERIES
# MNEM. UNIT        MANDATORY     DEFINITION      DESCRIPTION OF MNEMONIC                        EXPLANATION
# --------          ---------     ---------       -------------------------                      -------------------------
  IARV.M3               O         [NUMB 13,4]     TOTAL INITIAL FLOW AIR/N2 VOLUME M3
  IARL.M3               O         [NUMB 10,5]     TOTAL INITIAL FLOW AIR/N2 LENGTH M
  IARP.KPAA             O         [NUMB 8,2]      TOTAL INITIAL FLOW AIR/N2 PRESSURE KPAA
  IFVM.M3               O         [NUMB 13,4]     TOTAL INITIAL FLOW RECOVERY VOLUME M3
  IASV.M3               O         [NUMB 13,4]     TOTAL INITIAL SHUT-IN AIR/N2 VOLUME M3
  IASL.M                O         [NUMB 10,5]     TOTAL INITIAL SHUT-IN AIR/N2 LENGTH M
  IASP.KPAA             O         [NUMB 8,2]      TOTAL INITIAL SHUT-IN AIR/N2 PRESSURE KPAA
  IFSV.M3               O         [NUMB 13,4]     TOTAL INITIAL SHUT-IN RECOVERY VOL M3

~ FINAL FLOW RATES AND RECOVERIES
# MNEM. UNIT        MANDATORY     DEFINITION      DESCRIPTION OF MNEMONIC                        EXPLANATION
# -------------     ------------  --------------  ------------------                             ------------------------------------
  FGDP.KPAA/MIN         O         [NUMB 8,2]      FINAL GAS SURF DP/DT KPAA/MIN
  FGSW.M3/D             O         [NUMB 13,4]     FINAL GAS SATURATED WATER RATE M3/D
  FGWD.KPAA/MIN         O         [NUMB 8,2]      FINAL GAS SAT. WATER SURF DP/DT KPAA/MIN
  FLIR.M3/D             O         [NUMB 13,4]     FINAL PURE LIQUID INFLUX RATE  M3/D
  FLID.KPAA/MIN         O         [NUMB 8,2]      FINAL LIQUID INFLUX SURFACE DP/DT KPAA/MIN
  AVGR.E3M3/D           O         [NUMB 13,4]     AVERAGE GAS FLOW RATE E3M3/DAY                 Closed Chamber
  AVOR.M3/D             O         [NUMB 13,4]     AVERAGE OIL FLOW RATE M3/DAY                   Closed Chamber
```

```
 AVWR.M3/D          O          [NUMB 13,4]         AVERAGE WATER FLOW RATE M3/DAY             Closed Chamber
 FARV.M3            O          [NUMB 13,4]         TOTAL FINAL FLOW AIR/N2 VOLUME M3
 FARL.M             O          [NUMB 10,5]         TOTAL FINAL FLOW AIR/N2 LENGTH M
 FARP.KPAA          O          [NUMB 8,2]          TOTAL FINAL FLOW AIR/N2 PRESSURE KPAA
 FFVM.M3            O          [NUMB 13,4]         TOTAL FINAL FLOW RECOVERY VOLUME M3
 FASV.M3            O          [NUMB 13,4]         TOTAL FINAL SHUT-IN AIR/N2 VOLUME M3
 FASL.M             O          [NUMB 10,5]         TOTAL FINAL SI AIR/N2 LENGTH M
 FASP.KPAA          O          [NUMB 8,2]          TOTAL FINAL SI AIR/N2 PRESSURE KPAA
 FFSV.M3            O          [NUMB 13,4]         TOTAL FINAL SI RECOVERY VOLUME M3

~ FLOW SUMMARY DATA TABLE - CLOSED CHAMBER
# {DTFCC - DEFINITIONS AND DESCRIPTIONS IN ASSOCIATION WITH DTFCC TABLE}
# {TABLE DTFCC CAN BE OMITTED IF CLOSED CHAMBER NOT RAN (DSTTY IS NOT = "7")}
# MNEM. UNIT    MANDATORY      DEFINITION          DESCRIPTION OF MNEMONIC                    EXPLANATION
# -----------   -----------    -----------         ---------------------------                ----------------
 STGE.              O          [CHAR 2]            STAGE NUMBER                               Test stage number
 FSTGC.             O          [CHAR 22]           STAGE DESCRIPTION                          i.e. Initial Hydrostatic, Start of 1st Flow
 PRGA.KPAA          O          [NUMB 8,2]          GAUGE PRESSURE KPAA                        Primary Gauge pressure
 TSTD.MIN           O          [NUMB 10,5]         STAGE DURATION MINUTES                     Duration of stage

~ DTFCC         STGE       FSTGC                              PRGA          TSTD
#               ---        -----------------------            ---------     ----------
                XX         XXXXXXXXXXXXXXXXXXXX               999999.99     99999.99999
                XX         XXXXXXXXXXXXXXXXXXXX               999999.99     99999.99999
                XX         XXXXXXXXXXXXXXXXXXXX               999999.99     99999.99999

~ DATA TABLE - CLOSED CHAMBER
# {DTCC - DEFINITIONS AND DESCRIPTIONS IN ASSOCIATION WITH DTCC TABLE}
# {TABLE DTCC CAN BE OMITTED IF CLOSED CHAMBER NOT RAN (DSTTY IS NOT = "7")}
# MNEM. UNIT       MANDATORY    DEFINITION          DESCRIPTION OF MNEMONIC                    EXPLANATION
# -----------      -----------  -----------         ---------------------------                ----------
 STGE.                MO        [CHAR 2]            STAGE NUMBER                               Test stage number
 TIME.DAY/HR/SS       MO        YYYY MM DD HHHH:SS  REAL TIME                                  24 Hour clock
 TCSF.MIN             MO        [NUMB 10,5]         CUMULATIVE STAGE FLOW TIME MINUTES         Time from stage start
 SDPT.KPAA/MIN        O         [NUMB 8,2]          SURFACE DP/DT KPAA/MIN                     Change in Surface pressure/time
 PSUR.KPAA            MO        [NUMB 8,2]          SURFACE PRESSURE KPAA                      Surface pressure
 RDPT.KPAA/MIN        O         [NUMB 8,2]          RECOVERY DP/DT KPAA/MIN                    Change in recovery pressure/time
 PRCV.KPAA            O         [NUMB 8,2]          RECOVERY PRESSURE KPAA                     Recovery pressure
 QLIQ.M3/D            MO        [NUMB 13,4]         LIQUID RATE M3/DAY                         Flow rate of liquid recovered
 QGAS.E3M3/D          MO        [NUMB 13,4]         GAS RATE E3M3/DAY                          Flow rate of gas recovered

~ DTCC      STGE     TIME       TCSF          SDPT        PSUR        RDPT        PRCV        QLIQ              QGAS
#           ---      ------     ---------     -------     -------     -------     -------     -----------       -----------
            XX       YMDHS      99999.99999   999999.99   999999.99   999999.99   999999.99   999999999.9999    999999999.9999
            XX       YMDHS      99999.99999   999999.99   999999.99   999999.99   999999.99   999999999.9999    999999999.9999
            XX       YMDHS      99999.99999   999999.99   999999.99   999999.99   999999.99   999999999.9999    999999999.9999

# NOTE: YMDHS = YYYYMMDDHHHH:SS
```

10.0 GAS ANALYSIS FORMAT (GAN)

The Gas Analysis format is intended for reporting gas analyzed from a specific well and is captured on EUB database systems. It is recommended that a full suite of analysis be submitted. Any elements or parameters not provided for in the GAN-PAS file format can be included in the TIFF file, or in comment lines beginning with #.

It is not intended to report analysis of gas samples gathered from sales lines, treatment facilities, etc. Gas analysis data from gas plants producing NGLs and LPGs, relating to plant co-products data, as per section 11.080 of the Oil and Gas Conservation Regulations can be submitted on a request only basis, and are not within the scope of this project.

10.1 GAN General Information

- **TEST DATA [PRPS] (test purpose)** flag has been omitted from the GAN-PAS format. Although gas analysis must be submitted when conducted at a well and information from gas analysis is required for an AOF test, the EUB currently can not determine what gas analysis was conducted. Therefore, the EUB does not intend to administer submission of gas analysis on a requirement basis, although some type of audit may be done to compare information being reported on the AOF formats to that submitted in the GAN files, to ensure all pertinent data is being submitted.

- **Trace** amounts too small to measure, should be reported as .0001. Use a comment line beginning with # to qualify.

10.2 GAN Mandatory/Optional

LIQUID ANALYSIS SECTION:

All of the following elements are mandatory if
TEST DATA [HYDLP] (hydrocarbon liquids production) = “Y”

- [RDLIQ] (relative density of liquid)
- [RELMM] (relative molecular mass)
- [H2SLP] (hydrogen sulfide indicator)
- [H2S] (hydrogen sulfide fraction)
- [CO2] (carbon dioxide fraction)
- [N2] (nitrogen fraction)
- [C1] (methane fraction)
- [C2] (ethane fraction)

- [C3] (propane fraction)
- [IC4] (iso-butane fraction)
- [NC4] (N-butane fraction)
- [IC5] (iso-pentane fraction)
- [NC5] (N-pentane fraction)
- [C6] (N-hexane fraction)
- [C7+] (heptane plus fraction)

10.3 Codes for GAN

See section 6.1.1 or Appendix C for codes WELL INFORMATION [WSFL] (well fluid status), [WSMO] (fluid mode), and [WSTY] (fluid type).

Acceptable values for TEST DATA [SPNT] (sample gathering points) are:

10 - Recombination
20 - High Pressure Separator (>2000kpa)
30 - Wellhead
40 - Other (i.e.: meter run, pressure tank, tubing, "Low Pressure Separator" <2000kpa)
50 - DST
60 - Other (submission of gas & condensate/hydrocarbon liquid analysis)

10.4 Critical Edits for GAN

Here are the generic ranges that have been set for PAS elements. All depth, pressure, temperature, rate elements will be edited to ensure they are within these ranges. However, the number of decimal places indicated here do not apply to raw data points, which generally provide for greater resolution, as indicated on the various PAS formats:

All Depths must be less than	7,000.00 M	rounded to 2 decimals
All Pressures must be less than	99,999.00 kPa	rounded to whole number
All Temperatures must be between	-100 and 1,000°C	rounded to whole number
All Times must be less than (except for DSTs which are reported in minutes, and raw data as indicated above)	100,000.0 H	rounded to 1 decimal
All gas production rates must be less than	100,000.00 E^3M^3/day	rounded to 2 decimals
All oil and water rates must be less than	100,000.00 M^3/day	rounded to 2 decimals

- WELL INFORMATION [UWI] (unique well identifier) must exist on EUB system
- WELL INFORMATION [WLIC] (well license number) must match license number for this UWI on EUB system
- WELL INFORMATION [WTYP] (well type indicator) must = "V", "D", or "H"
- TEST DATA [TBASL] (test interval base at log depth) must be > "0.0", and
  => [TTOPL] (test interval top at log depth), and
  => [TBAST] (test base at TVD)
- TEST DATA [TTOPL] (test interval top at log depth) must be > "0.0", and
  => [TTOPT] (test top at TVD)
- TEST DATA [TBAST] (test interval base at TVD) must be > "0.0", and
  => [TTOPT] (test interval top at TVD)
- TEST DATA [TTOPT] (test interval top at TVD) must be > "0.0"
- TEST DATA [SOLG] (solution gas indicator) must equal "S" or "N"
- TEST DATA [SPNT] (sample point code) must equal "10", "20", "30", "40", "50", or "60"
- If TEST DATA [SPNT] (sample point code) equals "10", or "60",
  then [HYDLP] (hydrocarbon liquids indicator) must = "Y", and
  LIQUID ANALYSIS [H2SLP] (hydrogen sulfide indicator) must = "N", "T" or "M", and
  LIQUUID ANALYSIS [all mole fractions] must total 1.00, plus or minus .01 for rounding
- If TEST DATA [SPNT] (sample point code) equals "20", "30", "40",or "50",
  then [HYDLP] (hydrocarbon liquids indicator) must = "N", and
  all elements in LIQUID ANALYSIS section must be blank
- GAS ANALYSIS [H2SGP] (hydrogen sulfide indicator) must equal "N", "T", or "M"
- GAS ANALYSIS [all mole fractions] must total 1.00 plus or minus .01 for rounding
- If TEST DATA [HYDLP] (hydrocarbon liquids indicator) = "Y",
  then LIQUID ANALSYSIS [all mole fractions] must total 1.00 plus or minus .01 for rounding

10.5 Non-Critical Edits for GAN Files

- TEST DATA [TTOPT] (test top at TVD) cannot be greater than Total Well Depth
- TEST DATA [TBAST] (test base at TVD) cannot be greater than Total Well Depth
- TEST DATA [TTOPL] (test top at log depth) cannot be greater than Total Well Depth
- TEST DATA [TBASL] (test base at log depth) cannot be greater than Total Well Depth
- If TEST DATA [HYDLP] (hydrocarbon liquid production) = "N",
  Then TEST DATA [GLR] (gas liquid ratio) must = "0.0"

- If GAS ANALYSIS [H2SGP] (hydrogen sulfide indicator) does not = "N",
  Then [H2S.FRACTION] must be > "0.0" and < 30%
  Note: An unmeasurable trace of liquid or gas should be reported as "0.0001". Use a comment line starting with "#" to qualify the situation.
- GAS ANALYSIS [CO2.FRACTION] (carbon dioxide) should not be > 0.05
- GAS ANALYSIS [N2.FRACTION] (nitrogen) should not be > 0.10
- GAS ANALYSIS [H2.FRACTION] (hydrogen) should not be > 0.001
- GAS ANALYSIS [HE.FRACTION] (helium) should not be > 0.001
- GAS ANALYSIS [C1.FRACTION] (methane) should not be < 0.50
- GAS ANALYSIS [C2.FRACTION] (ethane) should not be > 0.15
- GAS ANALYSIS [C3.FRACTION] (propane) should not be > 0.05
- GAS ANALYSIS [IC4.FRACTION] (iso-butane) should not be > 0.01
- GAS ANALYSIS [NC4.FRACTION] (n-butane) should not be > 0.02
- GAS ANALYSIS [IC5.FRACTION] (iso-pentane) should not be > 0.01
- GAS ANALYSIS [NC5.FRACTION] (n-pentane) should not be > 0.01
- GAS ANALYSIS [C6.FRACTION] (n-hexane) should not be > 0.01
  Note: If C6+ is used, then C7+ should be "0.0"
- GAS ANALYSIS [C7+.FRACTION] (heptane plus) should not be > 0.01

If TEST DATA [HYDLP] (hydrocarbon liquids production) = "Y", then the following values apply:

- LIQUID ANALYSIS [RELMM] (relative molecular mass) must be > 80 and < 250
- LIQUID ANALYSIS [RDLIQ] (relative density of liquid) must be => 0.5 and < 1.0
- If LIQUID ANALYSIS [H2SLP] (hydrogen sulfide indicator) does not = "N",
  Then [H2S.FRACTION] must be > "0" and < 30%
  Note: An unmeasurable trace of liquid or gas should be reported as "0.0001". Use a comment line starting with "#" to qualify the situation.
- LIQUID ANALYSIS [CO2.FRACTION] (carbon dioxide) should not be > 0.05
- LIQUID ANALYSIS [N2.FRACTION] (nitrogen) should not be > 0.001
- LIQUID ANALYSIS [H2.FRACTION] (hydrogen) should not be > 0.001
- LIQUID ANALYSIS [HE.FRACTION] (helium) should not be > 0.001
- LIQUID ANALYSIS [C1.FRACTION] (methane) should not be > 0.30

- LIQUID ANALYSIS [C2.FRACTION] (ethane) should not be > 0.05
- LIQUID ANALYSIS [C3.FRACTION] (propane) should not be > 0.05
- LIQUID ANALYSIS [IC4.FRACTION] (iso-butane) should not be > 0.05
- LIQUID ANALYSIS [NC4.FRACTION] (n-butane) should not be > 0.10
- LIQUID ANALYSIS [IC5.FRACTION] (iso-pentane) should not be > 0.10
- LIQUID ANALYSIS [NC5.FRACTION] (n-pentane) should not be > 0.10
- LIQUID ANALYSIS [C6.FRACTION] (n-hexane) should not be > 0.15
  Note: If C6+ is used, then C7+ should be "0.0"
- LIQUID ANALYSIS [C7+.FRACTION] (heptane plus) should not be > 0.40

10.6 GAN TIFF File

A TIFF file is not required for gas analysis format, but should be used to report any charts, plots, or parameters not included in the PAS format.

10.7 GAN-PAS Format

The actual GAN-PAS format is detailed on the following two pages.

#NOTE: Definition [NUMB A,B] indicates A total digits, with B digits after the decimal (e.g.: [NUMB 5,2] = 123.45) *Release Date: December 31, 1998*

~ VERSION

# MNEM. UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
TYPE.	PAS-GAN	[CHAR 7]	DIGITAL DATA - GAS ANALYSIS	Gas Analysis test, format
UNIT.	M	[CHAR 1]	UNITS FLAG	Metric Units for EUB submission
VERS.	2.1	[NUMB 5,2]	CIM/EUB DIGITAL WELL TEST DATA	Current CIM/EUB version for ASCII test data submission

~ WELL INFORMATION

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
COMP.	M	[CHAR 60]	COMPANY NAME	Licensee Name
UWI .	M	[CHAR 20]	UNIQUE WELL ID	Unique well identifier - bottomhole location
WLIC.	M	[CHAR 9]	EUB WELL LICENSE NUMBER	EUB Well License Number
FORM.	M	[CHAR 20]	FORMATION NAME	Name of the geological formation/zone
WSFL.	M	[NUMB 2]	WELL FLUID STATUS AT TEST DATE	Type of production/pay or reservoir, code per EUB Guide 52 (i.e. oil, gas, water)
WSMO.	M	[NUMB 2]	WELL MODE STATUS AT TEST DATE	Current producing status of well, code per EUB Guide 52 (i.e. suspended, abandoned)
WSTY.	M	[NUMB 2]	WELL TYPE STATUS AT TEST DATE	Type of well, code per EUB Guide 52 (i.e. disposal, injection, source)
WTYP.	M	[CHAR 1]	WELL TYPE INDICATOR	Flag indicating (V)ertical, (D)eviated, or (H)orizontal Wellbore

~ TEST DATA

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
LABCO.	M	[CHAR 60]	LABORATORY OR SERVICE COMPANY	Company name conducting analysis
LFNUM.	M	[CHAR 25]	LABORATORY FILE NUMBER	Identification number
TTOPL.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL TOP M KB (LOG)	Top of tested or producing interval at log depth
TBASL.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL BASE M KB (LOG)	Base of tested or producing interval at log depth
TTOPT.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL TOP M KB (TVD)	Top of tested or producing interval at true vertical depth
TBAST.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL BASE M KB (TVD)	Base of tested or producing interval at true vertical depth
SDAT.DAY	M	[YYYY MM DD]	DATE SAMPLED	Date sample gathered
IDENT.	M	[CHAR 12]	CONTAINER IDENTITY	Identification code of container
SPNT.	M	[NUMB 2]	SAMPLE POINT CODE	Sample gathering point, code per EUB Guide 52
HYDLP.	M	[CHAR 1]	HYDROCARBON LIQUIDS PRODUCTION	Flag indicating measurable liquid production (Y)es or (N)o
SOLG.	M	[CHAR 1]	SOLUTION GAS INDICATOR	Flag indicating gas is, (S)olution or (N)on-Solution gas
GLR.M3/M3	O	[NUMB 7,0]	GAS LIQUID RATIO	Calculated ratio
ADAT.DAY	M	[YYYY MM DD]	DATE ANALYZED	Date analysis conducted
ANAM.	O	[CHAR 20]	ANALYST'S NAME	Name of individual that conducted analysis
GANC.	O	[CHAR 50]	COMMENT	Free form comments regarding sample

~ GAS ANALYSIS

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION	EXPLANATION
SGG.	M	[NUMB 4,3]	GAS SPECIFIC GRAVITY	Specific gravity of the gas in wellbore
H2SGP.	M	[CHAR 1]	HYDROGEN SULFIDE INDICATOR	Flag indicating presence of H2S (N)one,(T)race or (M)easured
H2S.FRACTION	M	[NUMB 5,4]	HYDROGEN SULFIDE	Mole fraction, air free as received
CO2.FRACTION	M	[NUMB 5,4]	CARBON DIOXIDE	Mole fraction, air free as received
N2.FRACTION	M	[NUMB 5,4]	NITROGEN	Mole fraction, air free as received

```
  H2.FRACTION        M           [NUMB 5,4]      HYDROGEN                          Mole fraction, air free as received
  HE.FRACTION        M           [NUMB 5,4]      HELIUM                            Mole fraction, air free as received
  C1.FRACTION        M           [NUMB 5,4]      METHANE                           Mole fraction, air free as received
  C2.FRACTION        M           [NUMB 5,4]      ETHANE                            Mole fraction, air free as received
  C3.FRACTION        M           [NUMB 5,4]      PROPANE                           Mole fraction, air free as received
  IC4.FRACTION       M           [NUMB 5,4]      ISO-BUTANE                        Mole fraction, air free as received
  NC4.FRACTION       M           [NUMB 5,4]      N-BUTANE                          Mole fraction, air free as received
  IC5.FRACTION       M           [NUMB 5,4]      ISO-PENTANE                       Mole fraction, air free as received
  NC5.FRACTION       M           [NUMB 5,4]      N-PENTANE                         Mole fraction, air free as received
  C6.FRACTION        M           [NUMB 5,4]      N-HEXANE                          Mole fraction, air free as received
  C7+.FRACTION       M           [NUMB 5,4]      HEPTANE PLUS                      Mole fraction, air free as received

~ LIQUID ANALYSIS
# MNEM.UNIT       MANDATORY      DEFINITION      DESCRIPTION                       EXPLANATION
# -----------     -----------    -----------     -------------                     --------------
  RDLIQ.M3/M3        MO          [NUMB 4,3]      RELATIVE DENSITY OF LIQUID        Liquid relative density to water, as sampled
  RELMM.             MO          [NUMB 4,1]      RELATIVE MOLECULAR MASS
  BG.RM3/M3          O           [NUMB 4,2]      GAS FORMATION VOLUME FACTOR       Oil shrinkage factor from surface to reservoir conditions
  H2SLP.             MO          [CHAR 1]        HYDROGEN SULFIDE INDICATOR        Flag indicating presence of H2S (N)one,(T)race or (M)easured
  H2S.FRACTION       MO          [NUMB 5,4]      HYDROGEN SULFIDE                  Mole fraction, air free as received
  CO2.FRACTION       MO          [NUMB 5,4]      CARBON DIOXIDE                    Mole fraction, air free as received
  N2.FRACTION        MO          [NUMB 5,4]      NITROGEN                          Mole fraction, air free as received
  H2.FRACTION        O           [NUMB 5,4]      HYDROGEN                          Mole fraction, air free as received
  HE.FRACTION        O           [NUMB 5,4]      HELIUM                            Mole fraction, air free as received
  C1.FRACTION        MO          [NUMB 5,4]      METHANE                           Mole fraction, air free as received
  C2.FRACTION        MO          [NUMB 5,4]      ETHANE                            Mole fraction, air free as received
  C3.FRACTION        MO          [NUMB 5,4]      PROPANE                           Mole fraction, air free as received
  IC4.FRACTION       MO          [NUMB 5,4]      ISO-BUTANE                        Mole fraction, air free as received
  NC4.FRACTION       MO          [NUMB 5,4]      N-BUTANE                          Mole fraction, air free as received
  IC5.FRACTION       MO          [NUMB 5,4]      ISO-PENTANE                       Mole fraction, air free as received
  NC5.FRACTION       MO          [NUMB 5,4]      N-PENTANE                         Mole fraction, air free as received
  C6.FRACTION        MO          [NUMB 5,4]      N-HEXANE                          Mole fraction, air free as received
  C7+.FRACTION       MO          [NUMB 5,4]      HEPTANE PLUS                      Mole fraction, air free as received
```

11.0 OIL ANALYSIS FORMAT (OAN)

A PAS format has being developed for reporting oil analysis and will be come a requirement on 1 March 1999. This format is intended for reporting analysis of oil samples gathered from a specific well. Any elements not provided for in the OAN-PAS file format can be included in the TIFF file, or in comment lines beginning with #.

11.1 OAN General Information

- **TEST DATA [PRPS] (test purpose)** flag has been omitted from the OAN-PAS format. Although oil analysis must be submitted when conducted at a well, the EUB currently can not determine what oil analysis was conducted. Therefore, the EUB does not intend to administer submission of oil analysis on a requirement basis. although some type of audit may be done in the future.
- **Trace** amounts too small to measure, should be reported as .0001. Use a comment line beginning with # to qualify.

11.2 OAN Mandatory/Optional

There are no Mandatory/Optional elements for the WAN format.

11.3 Codes for OAN

See section 6.1.1 or Appendix B for codes WELL INFORMATION [WSFL] (well fluid status), [WSMO] (fluid mode), and [WSTY] (fluid type).

Acceptable values for TEST DATA [SPNT] (sample gathering points) are:

20 - High Pressure Separator (>2000kpa)
30 - Wellhead
40 - Other (i.e. meter run, pressure tank, tubing, "Low Pressure Separator" <2000kpa)
50 - DST

11.4 Critical Edits for OAN

Here are the generic ranges that have been set for PAS elements. All depth, pressure, temperature, rate elements will be edited to ensure they are within these ranges. However, the number of decimal places indicated here do not apply to raw data points, which generally provide for greater resolution, as indicated on the various PAS formats:

All Depths must be less than	7,000.00 M	rounded to 2 decimals
All Pressures must be less than	99,999.00 kPa	rounded to whole number
All Temperatures must be between	-100 and 1,000°C	rounded to whole number

All Times must be less than (except for DSTs which are reported in minutes, and raw data as indicated above)	100,000.0 H	rounded to 1 decimal
All gas production rates must be less than	100,000.00 E^3M^3/day	rounded to 2 decimals
All oil and water rates must be less than	100,000.00 M^3/day	rounded to 2 decimals

- WELL INFORMATION [UWI] (unique well identifier) must exist on EUB system
- WELL INFORMATION [WLIC] (well license number) must match license number for this UWI on EUB system
- WELL INFORMATION [WTYP] (well type indicator) must = “V”, “D”, or “H”
- TEST DATA [TBASL] (test interval base at log depth) must be > “0.0”, and
  => [TTOPL] (test interval top at log depth), and
  => [TBAST] (test base at TVD)
- TEST DATA [TTOPL] (test interval top at log depth) must be > “0.0”, and
  => [TTOPT] (test top at TVD)
- TEST DATA [TBAST] (test interval base at TVD) must be > “0.0”, and
  => [TTOPT] (test interval top at TVD)
- TEST DATA [TTOPT] (test interval top at TVD) must be > “0.0”
- TEST DATA [SOLG] (solution gas indicator) must equal “S” or “N”
- TEST DATA [SPNT] (sample point code) must equal “20”, “30”, “40”, “50”, or “60”

11.5 Non-Critical Edits for OAN Files

- TEST DATA [TTOPT] (test top at TVD) cannot be greater than Total Well Depth
- TEST DATA [TBAST] (test base at TVD) cannot be greater than Total Well Depth
- TEST DATA [TTOPL] (test top at log depth) cannot be greater than Total Well Depth
- TEST DATA [TBASL] (test base at log depth) cannot be greater than Total Well Depth

Note: Report an unmeasurable trace, presence, non-applicable, or non-detected amounts of liquids or gases as “0.0001”. Use a comment line, immediately following the occurrence, starting with “#” to qualify the circumstance

11.6 OAN TIFF File

A TIFF file is not required for the OAN format, but can be used to report any other parameters not included in the PAS format. The TIFF file can be used to include plots or text from the analysis.

11.7 OAN-PAS Format

The actual OAN-PAS format is detailed on the following three pages. This format may not be the latest version. All users should check the EUB website to find the latest version of PAS formats. Dates are included on the formats to determine the most recent version.

#NOTE: Definition [NUMB A,B] indicates A total digits, with B digits after the decimal (e.g.: [NUMB 5,2] = 123.45) *Release Date: December 31, 1998*

~ VERSION

# MNEM. UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
TYPE.	PAS-OAN	[CHAR 7]	DIGITAL DATA - OIL ANALYSIS	Oil Analysis test, format
UNIT.	M	[CHAR 1]	UNITS FLAG	Metric Units for EUB submission
VERS.	2.1	[NUMB 5,2]	CIM/EUB DIGITAL WELL TEST DATA	Current CIM/EUB version for ASCII test data submission

~ WELL INFORMATION

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
COMP.	M	[CHAR 60]	COMPANY NAME	Licensee Name
UWI .	M	[CHAR 20]	UNIQUE WELL ID	Unique well identifier - bottomhole location
WLIC.	M	[CHAR 9]	EUB WELL LICENSE NUMBER	EUB Well License Number
FORM.	M	[CHAR 20]	FORMATION NAME	Name of the geological formation/zone
WSFL.	M	[NUMB 2]	WELL FLUID STATUS AT TEST DATE	Type of production/pay or reservoir, code per EUB Guide 52 (i.e. oil, gas, water)
WSMO.	M	[NUMB 2]	WELL MODE STATUS AT TEST DATE	Current producing status of well, code per EUB Guide 52 (i.e. suspended, abandoned)
WSTY.	M	[NUMB 2]	WELL TYPE STATUS AT TEST DATE	Type of well, code per EUB Guide 52 (i.e. disposal, injection, source)
WTYP.	M	[CHAR 1]	WELL TYPE INDICATOR	Flag indicating (V)ertical, (D)eviated, or (H)orizontal Wellbore

~ TEST DATA

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
LABCO.	M	[CHAR 60]	LABORATORY OR SERVICE COMPANY	Company name conducting analysis
LFNUM.	M	[CHAR 25]	LABORATORY FILE NUMBER	Identification number
TTOPL.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL TOP M KB (LOG)	Top of tested or producing interval at log depth
TBASL.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL BASE M KB (LOG)	Base of tested or producing interval at log depth
TTOPT.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL TOP M KB (TVD)	Top of tested or producing interval at true vertical depth
TBAST.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL BASE M KB (TVD)	Base of tested or producing interval at true vertical depth
SDAT.DAY	M	[YYYY MM DD]	DATE SAMPLED	Date sample gathered
IDENT.	M	[CHAR 12]	CONTAINER IDENTITY	Identification code of container
SPNT.	M	[NUMB 2]	SAMPLE POINT CODE	Sample gathering point, code per EUB Guide 52
SPNTN.	M	[CHAR 50]	SAMPLE POINT NAME	Sample gathering point name, description
PPC.KPAA	M	[NUMB 8,2]	PSEUDO CRITICAL PRESSURE KPAA	Pseudo critical pressure, kPaa
PTC.DEGK	M	[NUMB 5,2]	PSEUDO CRITICAL TEMPERATURE - KELVIN	Pseudo critical temperature, Kelvin
ADAT.DAY	M	[YYYY MM DD]	DATE ANALYZED	Date analysis conducted
ANAM.	O	[CHAR 20]	ANALYST'S NAME	Name of individual that conducted analysis
OANC.	O	[CHAR 50]	COMMENT	Free form comments on sample

~ SAMPLE PROPERTIES

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION	EXPLANATION
CNAM.	O	[CHAR 20]	COLOUR OF CLEAN OIL	Colour of clean oil, by name
CNUM.	O	[CHAR 20]	COLOUR NUMBER	Colour number, by ASTM D-1500
BSWW.FRACTION	O	[NUMB 4,3]	FRACTION OF WATER	Basic sand and water volume fraction, of water
BSWS.FRACTION	O	[NUMB 4,3]	FRACTION OF SEDIMENT	Basic sand and water volume fraction, of sediment
BSW.FRACTION	O	[NUMB 4,3]	FRACTION OF TOTAL BS&W	Basic sand and water volume fraction, total
RDNRX.	O	[NUMB 4,3]	RELATIVE DENSITY AS RECEIVED	Relative density as received

```
 RDNCL.              O      [NUMB 4,3]    RELATIVE DENSITY AFTER CLEANING            Relative density after cleaning
 ADNRX.KG/M3         O      [NUMB 6,1]    ABSOLUTE DENSITY AS RECEIVED KG/M3         Absolute density as received, kg/m3
 ADNCL.KG/M3         O      [NUMB 6,1]    ABSOULTE DENSITY AFTER CLEANING KG/M3      Absolute density after cleaning, kg/m3
 API.GRAVITY         O      [NUMB 6,2]    API GRAVITY AT 15 DEGC                     API gravity @ 15 Degrees Celsius
 TSUL.FRACTION       O      [NUMB 7,5]    TOTAL SULPHUR MASS FRACTION                Mass fraction of total sulphur
 TSUL.GM/KG          O      [NUMB 7,2]    TOTAL SULPHUR GM/KG                        Ratio of total sulphur, gm/kg
 TSALT.KG/M3         O      [NUMB 7,5]    TOTAL SALT                                 Salt kg/m3
 RVP.KPAA            O      [NUMB 8,2]    REID VAPOUR PRESSURE KPAA                  Reid Vapour Pressure, kPaa
 CONRD.FRACTION      O      [NUMB 8,2]    CARBON RISIDUE CONRADSON FRACTION          Carbon Risidue, mass fraction - Conradson
 RAMBT.FRACTION      O      [NUMB 8,2]    CARBON RISIDUE RAMSBOTTOM FRACTION         Carbon Risidue, mass fraction - Ramsbottom
 PPT.USBM            O      [NUMB 4]      POUR POINT U.S.B.M. STANDARD DEGC          Pour Point U.S.B.M. standard  - Degrees Celsius
 PPT.ASTM            O      [NUMB 4]      POUR POINT A.S.T.M. STANDARD DEGC          Pour Point A.S.T.M. standard  - Degrees Celsius


~ VISCOSITY
# MNEM.UNIT        MANDATORY    DEFINITION    DESCRIPTION                                EXPLANATION
# ---------------  -----------  ------------  ----------------                           ----------------
  UT1.DEGC           O      [NUMB 2]      VISCOSITY TEMPERATURE POINT 1              Viscosity temperature point 1, Degrees Celsius
  UAB1.MPA'S         O      [NUMB 11,3]   ABSOLUTE/DYNAMIC VISCOSITY AT POINT 1      Absolute/Dynamic viscosity at point 1, mPa's
  UKIN1.MM2/S        O      [NUMB 11,3]   KINEMATIC VISCOSITY AT POINT 1             Kinematic viscosity at point 1, mm2/s
  UT2.DEGC           O      [NUMB 2]      VISCOSITY TEMPERATURE POINT 2              Viscosity temperature point 2, Degrees Celsius
  UAB2.MPA'S         O      [NUMB 11,3]   ABSOLUTE/DYNAMIC VISCOSITY AT POINT 2      Absolute/Dynamic viscosity at point 2, mPa's
  UKIN2.MM2/S        O      [NUMB 11,3]   KINEMATIC VISCOSITY AT POINT 2             Kinematic viscosity at point 2, mm2/s
  UT3.DEGC           O      [NUMB 2]      VISCOSITY TEMPERATURE POINT 3              Viscosity temperature point 3, Degrees Celsius
  UAB3.MPA'S         O      [NUMB 11,3]   ABSOLUTE/DYNAMIC VISCOSITY AT POINT 3      Absolute/Dynamic viscosity at point 3, mPa's
  UKIN3.MM2/S        O      [NUMB 11,3]   KINEMATIC VISCOSITY AT POINT 3             Kinematic viscosity at point 3, mm2/s
  UT4.DEGC           O      [NUMB 2]      VISCOSITY TEMPERATURE POINT 4              Viscosity temperature point 4, Degrees Celsius
  UAB4.MPA'S         O      [NUMB 11,3]   ABSOLUTE/DYNAMIC VISCOSITY AT POINT 4      Absolute/Dynamic viscosity at point 4, mPa's
  UKIN4.MM2/S        O      [NUMB 11,3]   KINEMATIC VISCOSITY AT POINT 4             Kinematic viscosity at point 4, mm2/s
  UT5.DEGC           O      [NUMB 2]      VISCOSITY TEMPERATURE POINT 5              Viscosity temperature point 5, Degrees Celsius
  UAB5.MPA'S         O      [NUMB 11,3]   ABSOLUTE/DYNAMIC VISCOSITY AT POINT 5      Absolute/Dynamic viscosity at point 5, mPa's
  UKIN5.MM2/S        O      [NUMB 11,3]   KINEMATIC VISCOSITY AT POINT 5             Kinematic viscosity at point 5, mm2/s
  UT6.DEGC           O      [NUMB 2]      VISCOSITY TEMPERATURE POINT 6              Viscosity temperature point 6, Degrees Celsius
  UAB6.MPA'S         O      [NUMB 11,3]   ABSOLUTE/DYNAMIC VISCOSITY AT POINT 6      Absolute/Dynamic viscosity at point 6, mPa's
  UKIN6.MM2/S        O      [NUMB 11,3]   KINEMATIC VISCOSITY AT POINT 6             Kinematic viscosity at point 6, mm2/s


~ DISTILLATION
# MNEM.UNIT        MANDATORY    DEFINITION    DESCRIPTION                                EXPLANATION
# ---------------  -----------  ------------  ----------------                           ----------------
  IBP.DEGC           O      [NUMB 5,1]    INITIAL BOILING POINT TEMPERATURE DEGC     Initial boiling point temperature, Degrees Celsius
  DVL1.FRACTION      O      [NUMB 4,2]    VOLUME FRACTION POINT 1                    Distillation volume fraction 1
  DTP1.DEGC          O      [NUMB 5,1]    VOLUME TEMPERATURE POINT 1 DEGC            Distillation volume temperature 1, Degrees Celsius
  DVL2.FRACTION      O      [NUMB 4,2]    VOLUME FRACTION POINT 2                    Distillation volume fraction 2
  DTP2.DEGC          O      [NUMB 5,1]    VOLUME TEMPERATURE POINT 2 DEGC            Distillation volume temperature 2, Degrees Celsius
  DVL3.FRACTION      O      [NUMB 4,2]    VOLUME FRACTION POINT 3                    Distillation volume fraction 3
  DTP3.DEGC          O      [NUMB 5,1]    VOLUME TEMPERATURE POINT 3 DEGC            Distillation volume temperature 3, Degrees Celsius
  DVL4.FRACTION      O      [NUMB 4,2]    VOLUME FRACTION POINT 4                    Distillation volume fraction 4
  DTP4.DEGC          O      [NUMB 5,1]    VOLUME TEMPERATURE POINT 4 DEGC            Distillation volume temperature 4, Degrees Celsius
  DVL5.FRACTION      O      [NUMB 4,2]    VOLUME FRACTION POINT 5                    Distillation volume fraction 5
 DTP5.DEGC          O          [NUMB 5,1]    VOLUME TEMPERATURE POINT 5 DEGC           Distillation volume temperature 5, Degrees Celsius
 DVL6.FRACTION      O          [NUMB 4,2]    VOLUME FRACTION POINT 6                   Distillation volume fraction 6
 DTP6.DEGC          O          [NUMB 5,1]    VOLUME TEMPERATURE POINT 6 DEGC           Distillation volume temperature 6, Degrees Celsius
 DVL7.FRACTION      O          [NUMB 4,2]    VOLUME FRACTION POINT 7                   Distillation volume fraction 7
 DTP7.DEGC          O          [NUMB 5,1]    VOLUME TEMPERATURE POINT 7 DEGC           Distillation volume temperature 7, Degrees Celsius
 DVL8.FRACTION      O          [NUMB 4,2]    VOLUME FRACTION POINT 8                   Distillation volume fraction 8
 DTP8.DEGC          O          [NUMB 5,1]    VOLUME TEMPERATURE POINT 8 DEGC           Distillation volume temperature 8, Degrees Celsius
 DVL9.FRACTION      O          [NUMB 4,2]    VOLUME FRACTION POINT 9                   Distillation volume fraction 9
 DTP9.DEGC          O          [NUMB 5,1]    VOLUME TEMPERATURE POINT 9 DEGC           Distillation volume temperature 9, Degrees Celsius
 DVL10.FRACTION     O          [NUMB 4,2]    VOLUME FRACTION POINT 10                  Distillation volume fraction 10
 DTP10.DEGC         O          [NUMB 5,1]    VOLUME TEMPERATURE POINT 10 DEGC          Distillation volume temperature 10, Degrees Celsius
 DVL11.FRACTION     O          [NUMB 4,2]    VOLUME FRACTION POINT 11                  Distillation volume fraction 11
 DTP11.DEGC         O          [NUMB 5,1]    VOLUME TEMPERATURE POINT 11 DEGC          Distillation volume temperature 11, Degrees Celsius
 DVL12.FRACTION     O          [NUMB 4,2]    VOLUME FRACTION POINT 12                  Distillation volume fraction 12
 DTP12.DEGC         O          [NUMB 5,1]    VOLUME TEMPERATURE POINT 12 DEGC          Distillation volume temperature 12, Degrees Celsius
 DVL13.FRACTION     O          [NUMB 4,2]    VOLUME FRACTION POINT 13                  Distillation volume fraction 13
 DTP13.DEGC         O          [NUMB 5,1]    VOLUME TEMPERATURE POINT 13 DEGC          Distillation volume temperature 13, Degrees Celsius
 DVL14.FRACTION     O          [NUMB 4,2]    VOLUME FRACTION POINT 14                  Distillation volume fraction 14
 DTP14.DEGC         O          [NUMB 5,1]    VOLUME TEMPERATURE POINT 14 DEGC          Distillation volume temperature 14, Degrees Celsius
 DVL15.FRACTION     O          [NUMB 4,2]    VOLUME FRACTION POINT 15                  Distillation volume fraction 15
 DTP15.DEGC         O          [NUMB 5,1]    VOLUME TEMPERATURE POINT 15 DEGC          Distillation volume temperature 15, Degrees Celsius
 DVL16.FRACTION     O          [NUMB 4,2]    VOLUME FRACTION POINT 16                  Distillation volume fraction 16
 DTP16.DEGC         O          [NUMB 5,1]    VOLUME TEMPERATURE POINT 16 DEGC          Distillation volume temperature 16, Degrees Celsius
 DVL17.FRACTION     O          [NUMB 4,2]    VOLUME FRACTION POINT 17                  Distillation volume fraction 17
 DTP17.DEGC         O          [NUMB 5,1]    VOLUME TEMPERATURE POINT 17 DEGC          Distillation volume temperature 17, Degrees Celsius
 DVL18.FRACTION     O          [NUMB 4,2]    VOLUME FRACTION POINT 18                  Distillation volume fraction 18
 DTP18.DEGC         O          [NUMB 5,1]    VOLUME TEMPERATURE POINT 18 DEGC          Distillation volume temperature 18, Degrees Celsius
 DVL19.FRACTION     O          [NUMB 4,2]    VOLUME FRACTION POINT 19                  Distillation volume fraction 19
 DTP19.DEGC         O          [NUMB 5,1]    VOLUME TEMPERATURE POINT 19 DEGC          Distillation volume temperature 19, Degrees Celsius
 DVL20.FRACTION     O          [NUMB 4,2]    VOLUME FRACTION POINT 20                  Distillation volume fraction 20
 DTP20.DEGC         O          [NUMB 5,1]    VOLUME TEMPERATURE POINT 20 DEGC          Distillation volume temperature 20, Degrees Celsius
 FBP.DEGC           O          [NUMB 5,1]    FINAL BOILING POINT TEMPERATURE DEGC      Final boiling point temperature, Degrees Celsius
 CRKBP.DEGC         O          [NUMB 5,1]    CRACKED BOILING POINT TEMPERATURE DEGC    Cracked boiling point temperature, Degrees Celsius

~ METHODS AND SUMMARIES
# MNEM.UNIT       MANDATORY     DEFINITION    DESCRIPTION                               EXPLANATION
# -------------   -----------   ------------  ------------                              ---------------
  METHD.             O          [CHAR 20]     DISTILLATION METHOD                       Method used in distillation
  PBARA.KPAA         O          [NUMB 5,1]    ABSOLUTE BAROMETRIC PRESSURE KPAA         Absolute barometric pressure, kPaa
  TROOM.DEGC         O          [NUMB 5,1]    ROOM TEMPERATURE DEGC                     Lab room temperature, Degrees Celsius
  DVLNP.FRACTION     O          [NUMB 4,2]    NAPHTHA SUMMARY VOLUME FRACTION           Naphtha fraction
  DVLKR.FRACTION     O          [NUMB 4,2]    KEROSENE SUMMARY VOLUME FRACTION          Kerosene fraction
  DVLGO.FRACTION     O          [NUMB 4,2]    LIGHT GAS/OIL SUMMARY VOLUME FRACTION     Light gas/oil fraction
  DVLRC.FRACTION     O          [NUMB 4,2]    RECOVERED SUMMARY VOLUME FRACTION         Recovered fraction
  DVLRS.FRACTION     O          [NUMB 4,2]    RESIDUE SUMMARY VOLUME FRACTION           Residue fraction
  DVLLS.FRACTION     O          [NUMB 4,2]    LOSS SUMMARY VOLUME FRACTION              Distillation loss fraction
  CFACT.             O          [NUMB 5,1]    CHARACTERIZATION FACTOR
  GCOM.              O          [CHAR 240]    GENERAL COMMENT                           Free form general comment
```

12.0 PRODUCTION TEST FORMAT (PRD)

This format is used to report the production information gathered to determine deliverability of a well, and should be submitted in conjunction with an AOF file.

12.1 PRD General Information

- **TEST DATA [PRPS] (test purpose)** flag has been omitted from the PRD-PAS format. Although production data is generally submitted as part of an AOF test, it was separated from the AOF-PAS format to provide better functionality for the people gathering the data. The EUB does not intend to administer submission of production data on a requirement basis, although some type of audit may be done to compare information being reported on the AOF formats to PRD submissions to ensure we are receiving all the data.

12.2 PRD Mandatory/Optional

WELL INFORMATION SECTION:

- [HLID] (hole diameter in millimeters) is mandatory if WELL INFORMATION [OHCI] (open hole completion indicator) = "Y"
- [CSLD] (casing landed at depth) is mandatory if WELL INFORMATION [OHCI] (open hole completion indicator) = "Y"
- [LINR] (casing liner indicator) is mandatory if WELL INFORMATION [OHCI] (open hole completion indicator) = "Y"

METER GAS SECTION:

- METER GAS (n) AND DTGAS (n) sections are mandatory if WELL INFORMATION [WSFL] (fluid status code) = "02", otherwise the tables may be omitted if there is no data. If there is data, then these rules apply.
- [TAP] (tap type indicator) is mandatory if METER GAS [TYPE] (metering device type indicator) = "O"
- [TAPL] (tap location indicator) is mandatory if METER GAS [TYPE] (metering device type indicator) = "O"
- [RSIZ] (run/prover size) is mandatory if METER GAS [TYPE] (metering device type indicator) = "P", "C", "i", or "O"
- [TCON](turbine device constant) is mandatory if METER GAS [TYPE] (metering device type indicator) = "T"
- [ICON] (pitiot tube device constant) is mandatory if METER GAS [TYPE] (metering device type indicator) = "i"

DATA TABLE – GAS SECTION:

Note: This table may also be omitted if there is no data. If there is data, then these rules apply.

- [CHOK] (choke size) is mandatory if METER GAS [TYPE] (metering device type indicator) = "C"
- [ORIG] (orifice size) is mandatory if METER GAS [TYPE] (metering device type indicator) = "O", or "P"
- [STAG] (static pressure - gas) is mandatory if METER GAS [TYPE] (metering device type indicator) = "O", "P", "C", or "i"
- [DIFG] (pressure differential – gas) is mandatory if METER GAS [TYPE] (metering device type indicator) = "O", or "i"
- [TMPG] (temperature – gas) is mandatory if METER GAS [TYPE] (metering device type indicator) = "O", "P", "C", or "i"
- [TRBG] (turbine meter reading) is mandatory if METER GAS [TYPE] (metering device type indicator) = "T"

METER FLUID SECTION:

Note: This table may also be omitted if there is no data. If there is data, then these rules apply.

- [TAP] (tap type indicator) is mandatory if WELL INFORMATION [WSFL] (well fluid status) does not = "02", and METER FLUID [TYPE] (metering device type indicator) = "O" *(there may be no fluid meter for dry gas wells)*
- [TAPL] (tap location indicator) is mandatory if WELL INFORMATION [WSFL] (well fluid status) does not = "02", and METER FLUID [TYPE] (metering device type indicator) = "O"
- [RSIZ] (run/prover size) is mandatory if WELL INFORMATION [WSFL] (well fluid status) does not = "02", and METER FLUID [TYPE] (metering device type indicator) = "O", "P", "C", or "i"
- [TCON] (turbine device constant) is mandatory if WELL INFORMATION [WSFL] (well fluid status) does not = "02", and METER FLUID [TYPE] (metering device type indicator) = "T"
- [ICON] (Pitiot tube device constant) is mandatory if WELL INFORMATION [WSFL] (well fluid status) does not = "02", and METER FLUID [TYPE] (metering device type indicator) = "i"
- [TMEA] (tank measurement indicator) is mandatory if WELL INFORMATION [WSFL] (well fluid status) does not = "02", and METER FLUID [TYPE] (metering device type indicator) = "L", or "V"
- [TEQU] (tank equation) is mandatory if WELL INFORMATION [WSFL] (well fluid status) does not = "02", and METER FLUID [TYPE] (metering device type indicator) = "L"
- [API] (API degrees) is mandatory if [FLDT] (fluid type indicator) = "O" or "C"

DATA TABLE FLUID SECTION:

Note: This table may also be omitted if there is no data. If there is data, then these rules apply.

- [CHOK] (choke size) is mandatory if METER FLUID [TYPE] (metering device type indicator) = "C"
- [GNLF] (tank gain level) is mandatory if WELL INFORMATION [WSFL] (well fluid status) does not = "02", and METER FLUID [TYPE] (metering device type indicator) = "L"
- [GNVF] (tank gain volume) is mandatory if WELL INFORMATION [WSFL] (well fluid status) does not = "02", and METER FLUID [TYPE] (metering device type indicator) = "V"
- [TRBF] (turbine meter reading) is mandatory if WELL INFORMATION [WSFL] (well fluid status) does not = "02", and METER FLUID [TYPE] (metering device type indicator) = "T"
- [ORIF] (orifice size – fluid) is mandatory if WELL INFORMATION [WSFL] (well fluid status) does not = "02", and METER FLUID [TYPE] (metering device type indicator) = "O"
- [STAF] (static pressure – fluid) is mandatory if WELL INFORMATION [WSFL] (well fluid status) does not = "02", and METER FLUID [TYPE] (metering device type indicator) = "O", "P", or "i"
- [DIFF] (pressure differential – fluid) is mandatory if WELL INFORMATION [WSFL] (well fluid status) does not = "02", and METER FLUID [TYPE] (metering device type indicator) = "O", or "i"
- [TMPF] (temperature – fluid) is mandatory if WELL INFORMATION [WSFL] (well fluid status) does not = "02", and METER FLUID [TYPE] (metering device type indicator) = "O", "P", or "i"

DATA TABLE SUMMARY SECTION:

Note: DTSUM Table is mandatory and can not be omitted. However, in order to accommodate gas readings and fluid readings (which are usually not taken at the same time interval) it is not necessary to have a value for every column on every data point. Through discussions it has been agreed that blanks will be allowed in this data table. This has been accomplished by making all of the elements "optional" except time.

12.3 Codes for PRD

See section 6.1.1 or Appendix C for codes WELL INFORMATION [WSFL] (well fluid status), [WSMO] (fluid mode), and [WSTY] (fluid type).

See Appendix D for TEST DATA [SERCO] (service company codes).

12.4 Critical Edits for PRD

Here are the generic ranges that have been set for PAS elements. All depth, pressure, temperature, rate elements will be edited to ensure they are within these ranges. However, the number of decimal places indicated here do not apply to raw data points, which generally provide for greater resolution, as indicated on the various PAS formats:

All Depths must be less than	7,000.00 M	rounded to 2 decimals
All Pressures must be less than	99,999.00 kPa	rounded to whole number
All Temperatures must be between	-100 and 1,000°C	rounded to whole number
All Times must be less than (except for DSTs which are reported in minutes, and raw data as indicated above)	100,000.0 H	rounded to 1 decimal
All gas production rates must be less than	100,000.00 E^3M^3/day	rounded to 2 decimals
All oil and water rates must be less than	100,000.00 M^3/day	rounded to 2 decimals

- WELL INFORMATION [UWI] (unique well identifier) must exist on EUB system
- WELL INFORMATION [WLIC] (well license number) must match license number for this UWI on EUB system
- WELL INFORMATION [WTYP] (well type indicator) must = "V", "D", or "H"
- WELL INFORMATION [OHCI] (open hole completion indicator) must = "Y" or "N"
- WELL INFORMATION [LINR] (casing liner indicator) must = "Y" or "N" or be blank
- WELL INFORMATION [AFLO] (tubing or annular flow) must = "T", "A", or "C" or be blank
- TEST DATA [TBASL] (test interval base at log depth) must be > "0.0", and
  => [TTOPL] (test interval top at log depth), and
  => [TBAST] (test base at TVD)
- TEST DATA [TTOPL] (test interval top at log depth) must be > "0.0", and
  => [TTOPT] (test top at TVD)
- TEST DATA [TBAST] (test interval base at TVD) must be > "0.0", and
  => [TTOPT] (test interval top at TVD)
- TEST DATA [TTOPT] (test interval top at TVD) must be > "0.0"
- TEST DATA [FTDT] (final test date) must be > spud date and <= current date or abandoned date

Note: from this section on, all [NUMB] values in all sections of PRD must be > "0.0" unless otherwise stated:

- METER GAS (n) [TYPE] (metering device type indicator) must = "P", "O", "T", "I", "C", or "h"
- METER GAS (n) [TAP] (tap type inbdicator) must = "F" or "P"
- METER GAS (n) [TAPL] (tap location inbdicator) must = "U" or "D"
- METER GAS (n) [RSIZ] (run/prover size) must be = > "0.0"
- DATA TABLE GAS (n) [DIFG] (pressure differential – gas) must be => "0.0"
- DATA TABLE GAS (n) [TMPG] (temperature – gas) must be "-100.0"
- METER FLUID (n) [FLDT] (fluid type indicator) must = "O", "W", or "C"

- METER FLUID (n) [TYPE] (metering device type indicator) must = “P”, “O”, “T”, “I”, “C”. or “h”
- METER FLUID (n) [TAP] (tap type inbdicator) must = “F” or “P”
- METER FLUID (n) [TAPL] (tap location inbdicator) must = “U” or “D”
- DATA TABLE FLUID (n) [GNLF] (tank gain level) must => “0.0”
- DATA TABLE FLUID (n) [GNVF] (tank gain volume) must => “0.0”
- DATA TABLE FLUID (n) [DIFF] (pressure differential - fluid) must => “0.0”
- DATA TABLE FLUID (n) [TMPF] (temperature - fluid) must > “-100.0”

12.5 Non-Critical Edits for PRD

- TEST DATA [TTOPT] (test top at TVD) cannot be greater than Total Well Depth
- TEST DATA [TBAST] (test base at TVD) cannot be greater than Total Well Depth
- TEST DATA [TTOPL] (test top at log depth) cannot be greater than Total Well Depth
- TEST DATA [TBASL] (test base at log depth) cannot be greater than Total Well Depth

12.6 PRD TIFF File

A TIFF file is not required for this format, but can be used for any charts or graphs and to report any parameters not included in the PAS format.

12.7 PRD-PAS Format

The actual PRD-PAS format is detailed on the following four pages. This format may not be the latest version. All users should check the EUB website to find the latest version of PAS formats. Dates are included on the formats to determine the most recent version.

#NOTE: Definition [NUMB A,B] indicates A total digits, with B digits after the decimal (e.g.: [NUMB 5,2] = 123.45) *Release Date: December 31, 1998*

~ VERSION

# MNEM. UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
TYPE.	PAS-PRD	[CHAR 7]	DIGITAL DATA-PRODUCTION TEST DATA	Field Production test information, format
UNIT.	M	[CHAR 1]	UNITS FLAG	Metric Units for EUB submission
VERS.	2.1	[NUMB 5,2]	CIM/EUB DIGITAL WELL TEST DATA	Current CIM/EUB version for ASCII test data submission

~ WELL INFORMATION

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
COMP.	M	[CHAR 60]	COMPANY NAME	Licensee Name
UWI .	M	[CHAR 20]	UNIQUE WELL ID	Unique well identifier - bottomhole location
WLIC.	M	[CHAR 9]	EUB WELL LICENSE NUMBER	EUB Well License Number
FORM.	M	[CHAR 20]	FORMATION NAME	Name of the geological formation/zone
WSFL.	M	[NUMB 2]	WELL FLUID STATUS AT TEST DATE	Type of production/pay or reservoir, per EUB Guide 52 (i.e. oil, gas, water)
WSMO.	M	[NUMB 2]	WELL STATUS MODE AT TEST DATE	Current producing status of well, per EUB Guide 52 (i.e. suspended, abandoned)
WSTY.	M	[NUMB 2]	WELL STATUS TYPE AT TEST DATE	Type of well, per EUB Guide 52 (i.e. disposal, injection, source)
WTYP.	M	[CHAR 1]	WELL TYPE INDICATOR	Flag indicating (V)ertical, (D)eviated, or (H)orizontal Wellbore
WHDP.M	O	[NUMB 10,5]	WHIPSTOCK DEPTH M KB (TVD)	Depth of Whipstock
HLID.MM	MO	[NUMB 4,1]	HOLE DIAMETER MM	Inside diameter of hole
OHCI.	M	[CHAR 1]	OPEN HOLE COMPLETION INDICATOR	Flag indicating open hole completion (Y)es or (N)o
CSLD.M	MO	[NUMB 10,5]	CASING LANDED AT DEPTH M KB (TVD)	Depth at which casing landed, if open hole completion
LINR.	MO	[CHAR 1]	CASING LINER INDICATOR	Flag indicating presence of casing liner (Y)es or (N)o
TULD.M	O	[NUMB 10,5]	TUBING LANDED AT DEPTH M KB (TVD)	Depth at which tubing is landed
PCID.MM	O	[NUMB 4,1]	PRODUCTION CASING ID MM	Inside diameter of production casing
PTOD.MM	O	[NUMB 4,1]	PRODUCTION TUBING OD MM	Outside diameter of production tubing
TUBS.MM	O	[NUMB 4,1]	PRODUCTION TUBING ID MM	Inside diameter of production tubing
PKDT.M	O	[NUMB 10,5]	PACKER SETTING DEPTH IN M KB (TVD)	Depth at which packer set
AFLO.	O	[CHAR 1]	TUBING OR ANNULAR FLOW	Flag indicating flow regime (T)ubing, (A)nnular or (C)asing

~TEST DATA

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
TTNC.	O	[CHAR 20]	TEST TYPE NAME	Description type of test conducted
SERCO.	M	[CHAR 5]	SERVICE COMPANY CODE	Company conducting test (code from EUB Guide 52)
TTOPL.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL TOP M KB (LOG)	Top of tested or producing interval at log depth
TBASL.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL BASE M KB (LOG)	Base of tested or producing interval at log depth
TTOPT.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL TOP M KB (TVD)	Top of tested or producing interval at true vertical depth
TBAST.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL BASE M KB (TVD)	Base of tested or producing interval at true vertical depth
STRT.DAY/HR	O	[YYYY MM DD HHHH]	TEST START DATE/TIME	Date/time test started
TISI.DAY/HR	M	[YYYY MM DD HHHH]	TIME WELL SHUT-IN	Date/time well shut-in for final BU/FO
FTDT.DAY/HR	M	[YYYY MM DD HHHH]	TEST FINAL DATE/TIME	Date/time test ended
TSUR.DEGC	O	[NUMB 5,2]	SURFACE TEMPERATURE DEGC	Temperature at surface
TUPS.KPAA	O	[NUMB 8,2]	INITIAL TUBING PRESSURE	Tubing pressure at start of test
CSPS.KPAA	O	[NUMB 8,2]	INITIAL CASING PRESSURE	Casing pressure at start of test
FTUPS.KPAA	O	[NUMB 8,2]	FINAL TUBING PRESSURE KPAA	Tubing pressure at end of test
FCSPS.KPAA	O	[NUMB 8,2]	FINAL CASING PRESSURE KPAA	Casing pressure at end of test
VGAS.E3M3	M	[NUMB 13,4]	GAS PRODUCED IN CLEANUP/TEST E3M3	Total gas volume produced during cleanup and test
GPTO.	M	[CHAR 1]	METHOD OF TEST PRODUCTION	Flag indicating gas produced to (P)ipeline, (V)ent, or (F)lare

```
   GPTH.              M         [CHAR 1]           DESCRIPTION OF GAS PRODUCTION                   Flag indicating gas produced through (C)asing, (T)ubing or (B)oth
   FDUR.HR            O         [NUMB 10,5]        FLOW DURATION HOURS                             Hours well flowed during test
   HEAT.GJ            O         [NUMB 10,3]        CHOKE HEATER SIZE/CAPACITY GIGAJOULES
   QFGAS.E3M3/D       M         [NUMB 13,4]        FINAL GAS PRODUCTION RATE E3M3/D                Gas production rate at end of test
   QFCON.M3/D         O         [NUMB 13,4]        FINAL CONDENSATE PRODUCTION RATE M3/D           Condensate production rate at end of test
   QRGAS.E3M3/D       O         [NUMB 13,4]        RECOMBINED GAS PRODUCTION RATE E3M3/D           Recombined gas  = result of gas equivalent and true gas production
   QFWTR.M3/D         O         [NUMB 13,4]        FINAL WATER PRODUCTION RATE M3/D                Water production rate at end of test
   GEQV.E3M3/D        O         [NUMB 13,4]        GAS EQUIVALENT OF CONDENSATE E3M3/D             {Measured condensate volume * Gas equivalent factor}
   QDAT.DAY           M         [YYYY MM DD]       DATE OF PRODUCTION RATES                        Date production rates were measured
   TRES.DEGC          M         [NUMB 5,2]         RESERVOIR TEMPERATURE DEGC                      Reservoir temperature
   BLOW.HR            O         [NUMB 10,5]        WELL BLOW DURATION HOURS                        Minutes well was allowed to blow
   SPRAY.HR           O         [NUMB 10,5]        TIME FOR SPRAY TO CLEAR HOURS                   Water or condensate spray clear time
   DOIL.KG/M3         O         [NUMB 6,2]         OIL DENSITY KG/M3                               Density of the oil in wellbore

~ METER GAS (n)
# {METER GAS SECTION AND TABLE DTGAS(n) CAN BE OMITTED IF  NO GAS PRODUCED (VGAS = "0.0")}
# MNEM.UNIT        MANDATORY    DEFINITION         DESCRIPTION OF MNEMONIC                         EXPLANATION
# ---------------- ------------ ------------------ ----------------------------------------------- -------------------------
   TYPE.              M         [CHAR 1]           METERING DEVICE TYPE INDICATOR                  Flag - (P)rover, (O)rifice, (T)urbine, P(i)tiot Tube, (C)hoke, Ot(h)er
   SGG.               M         [NUMB 4,3]         GAS SPECIFIC GRAVITY                            Specific gravity of gas in wellbore
   N2.FRACTION        M         [NUMB 5,4]         NITROGEN                                        Mole fraction, air free as received
   CO2. FRACTION      M         [NUMB 5,4]         CARBON DIOXIDE                                  Mole fraction, air free as received
   H2S.FRACTION       M         [NUMB 5,4]         HYDROGEN SULFIDE                                Mole fraction, air free as received
   PATM.KPA           M         [NUMB 8,2]         ATMOSPHERIC PRESSURE
   TAP.               MO        [CHAR 1]           TAP TYPE INDICATOR                              Flag indicating taps (F)langed or  (P)ipe
   TAPL.              MO        [CHAR 1]           TAP LOCATION INDICATOR                          Flag indicating location of tap (U)p or (D)own stream
   RSIZ.MM            MO        [NUMB 8,3]         RUN / PROVER SIZE
   TCON.E3M3/REV      MO        [NUMB 10,5]        TURBINE DEVICE CONSTANT
   ICON.              MO        [NUMB 10,5]        PITIOT TUBE DEVICE CONSTANT
   VGASP.E3M3         M         [NUMB 13,4]        PREVIOUS GAS PRODUCED
   DNAM.              O         [CHAR 80]          DEVICE NAME                                      Description of device

~ DATA TABLE GAS (n)
# (DTGAS(n) - DEFINITIONS AND DESCRIPTIONS IN ASSOCIATION WITH DTGAS TABLES)
# {TABLE DTGAS(n) CAN BE OMITTED IF  NO GAS PRODUCED (VGAS = "0.0")}
# MNEM.UNIT        MANDATORY    DEFINITION         DESCRIPTION OF MNEMONIC                         EXPLANATION
# ---------------- ------------ ------------------ ----------------------------------------------- -------------------------
   TIME.DAY/HR/SS     M         YYYY MM DD HHHH:SS REAL TIME                                       24 Hour clock
   CHOK.MM            MO        [NUMB 8,3]         CHOKE SIZE
   ORIG.MM            MO        [NUMB 8,3]         ORIFICE SIZE (GAS) MM
   STAG.KPAA          MO        [NUMB 8,2]         STATIC PRESSURE (GAS) KPAA
   DIFG.KPA           MO        [NUMB 8,2]         PRESSURE DIFFERENTIAL (GAS) KPA
   TMPG.DEGC          MO        [NUMB 5,2]         TEMPERATURE (GAS) DEGC
   TRBG.REV           MO        [NUMB 8,3]         TURBINE METER READING
```

```
~ DTGAS(n)      TIME        CHOK         ORIG         STAG          DIFG          TMPG       TRBG
#               ----------  -----------  -----------  ------------  ------------  --------   -----------
                YMDHS       99999.999    99999.999    999999.99     999999.99     999.99     99999.99
                YMDHS       99999.999    99999.999    999999.99     999999.99     999.99     99999.99
                YMDHS       99999.999    99999.999    999999.99     999999.99     999.99     99999.99

# NOTE: YMDHS = YYYYMMDDHHHH:SS

~ METER FLUID (n)
# {METER FLUID SECTION AND TABLE DTFLD(N) CAN BE OMITTED IF  NO FLUID PRODUCED}
# MNEM.UNIT        MANDATORY          DEFINITION          DESCRIPTION OF MNEMONIC                        EXPLANATION
# ---------------  -----------------  ------------------  ---------------------------------------------  ---------------------------
  FLDT.                 M             [CHAR 1]            FLUID TYPE INDICATOR                           Flag indicating (O)il, (W)ater, (C)ondensate
  TYPE.                 M             [CHAR 1]            METERING DEVICE TYPE INDICATOR                 Flag - (P)rover, (O)rifice, (T)urbine, P(i)tiot Tube, (C)hoke, (L)evel, (V)olume, Ot(h)er
  TAP.                  MO            [CHAR 1]            TAP TYPE INDICATOR                             Flag indicating taps (F)langed or  (P)ipe
  TAPL.                 MO            [CHAR 1]            TAP LOCATION INDICATOR                         Flag indicating location of tap (U)p or (D)own stream
  RSIZ.MM               MO            [NUMB 8,3]          RUN / PROVER SIZE
  TCON.M3/REV           MO            [NUMB 10,5]         TURBINE DEVICE CONSTANT
  ICON.                 MO            [NUMB 10,5]         PITIOT TUBE DEVICE CONSTANT
  VFLP.M3               O             [NUMB 13,4]         PREVIOUS FLUID PRODUCED                        (i.e. oil)
  V2FLP.M3              O             [NUMB 13,4]         PREVIOUS SECONDARY FLUID PRODUCED              (i.e. water)
  TMEA.                 MO            [CHAR 1]            TANK MEASUREMENT INDICATOR                     Flag indicating (I)ncremental, or (C)umulative measurement
  TEQU.                 MO            [CHAR 240]          TANK EQUATION                                  Equation illustration mandatory if [TYPE] = (L)evel
  DNAM.                 O             [CHAR 80]           DEVICE NAME                                    Description of device
  API.                  MO            [NUMB 4,2]          API

~ DATA TABLE FLUID (n)
# (DTFLD(n) - DEFINITIONS AND DESCRIPTIONS IN ASSOCIATION WITH DTFLD TABLES)
# {TABLE DTFLD(n) CAN BE OMITTED IF  NO FLUID PRODUCED}
# MNEM.UNIT        MANDATORY          DEFINITION          DESCRIPTION OF MNEMONIC                        EXPLANATION
# ---------------  -----------------  ------------------  ---------------------------------------------  ---------------------------
  TIME.DAY/HR/SS        M             YYYY MM DD HHHH:SS  REAL TIME                                      24 Hour clock
  CHOK.MM               MO            [NUMB 8,3]          CHOKE SIZE
  GNLF.MM               MO            [NUMB 8,3]          TANK GAIN LEVEL
  GNVF.M3               MO            [NUMB 8,3]          TANK GAIN VOLUME
  TNKF.DEGC             O             [NUMB 5,2]          TANK TEMPERATURE DEGC
  TRBF.REV              MO            [NUMB 8,3]          TURBINE METER READING
  ORIF.MM               MO            [NUMB 8,3]          ORIFICE SIZE (FLUID)
  STAF.KPAA             MO            [NUMB 8,2]          STATIC PRESSURE (FLUID) KPAA
  DIFF.KPA              MO            [NUMB 8,2]          PRESSURE DIFFERENTIAL (FLUID) KPA
  TMPF.DEGC             MO            [NUMB 5,2]          TEMPERATURE(FLUID) DEGC
  BG.FRACTION           O             [NUMB 4,2]          SHRINKAGE FACTOR
  API.                  O             [NUMB 4,2]          API                                            Degrees C
  BSW.FRACTION          O             [NUMB 4,3]          BASIC SAND AND WATER PERCENTAGE                Total percentage of basic sediment and water
  FLDR.M3/D             M             [NUMB 13,4]         FLUID RATE                                     I.E. oil
  FL2R.M3/D             O             [NUMB 13,4]         SECONDARY FLUID RATE (I.E.OIL)
```

```
~DTFLD(n)  TIME       CHOK         GNLF         GNVF         TNKF       TRBF         ORIF         STAF         DIFF         TMPF       BG       API      BSW      FLDR                FL2R
#          ---------  -----------  -----------  -----------  ---------  -----------  -----------  -----------  -----------  ---------  -------  -------  -------  ------------------  ------------------
           YMDHS      99999.999    99999.999    99999.999    999.99     99999.999    99999.999    999999.99    999999.99    999.99     99.99    99.99    9.999    999999999.9999      999999999.9999
           YMDHS      99999.999    99999.999    99999.999    999.99     99999.999    99999.999    999999.99    999999.99    999.99     99.99    99.99    9.999    999999999.9999      999999999.9999
           YMDHS      99999.999    99999.999    99999.999    999.99     99999.999    99999.999    999999.99    999999.99    999.99     99.99    99.99    9.999    999999999.9999      999999999.9999

# NOTE: YMDHS = YYYYMMDDHHHH:SS

~DTSUM
# DATA TABLE SUMMARY – (DEFINITIONS AND DESCRIPTIONS IN ASSOCIATION WITH DTSUM TABLE)
# MNEM.UNIT         MANDATORY        DEFINITION            DESCRIPTION OF MNEMONIC                       EXPLANATION
# ----------------  ---------------  --------------------  --------------------------------------------  ---------------------------
  TIME.DAY/HR/SS          M          YYYY MM DD HHHH:SS    REAL TIME                                     24 Hour clock
  TWH.DEGC                O          [NUMB 5,2]            WELLHEAD TEMPERATURE DEGC                     Temperature measured at wellhead
  TUPS.KPAA               O          [NUMB 8,2]            TUBING PRESSURE
  TTUB.DEGC               O          [NUMB 5,2]            TUBING TEMPERATURE DEGREES C
  CSPS.KPAA               O          [NUMB 8,2]            CASING PRESSURE  KPAA
  TCAS.DEGC               O          [NUMB 5,2]            CASING TEMPERATURE DEGREES C
  QTGAS.E3M3/D            O          [NUMB 13,4]           TOTAL GAS RATE ALL METERS
  QTOIL.M3/D              O          [NUMB 13,4]           TOTAL OIL RATE ALL METERS
  QTCON.M3/D              O          [NUMB 13,4]           TOTAL CONDENSATE RATE ALL METERS
  QTWTR.M3/D              O          [NUMB 13,4]           TOTAL WATER RATE ALL METERS
  VTGAS.E3M3              O          [NUMB 13,4]           TOTAL GAS VOLUME ALL METERS
  VTOIL.M3                O          [NUMB 13,4]           TOTAL OIL VOLUME ALL METERS
  VTCON.M3                O          [NUMB 13,4]           TOTAL CONDENSATE VOLUME ALL METERS
  VTWTR.M3                O          [NUMB 13,4]           TOTAL WATER VOLUME ALL METERS
  SALT.PPM                O          [NUMB 8,2]            SALINITY PPM
  PH.                     O          [NUMB 4.2]            PH
  COMM.                   O          [CHAR 240]            GENERAL TEST COMMENTS                          Ideally the last column for readability

~DTSUM     TIME       TWH      TUPS        TTUB     CSPS        TCAS     QTGAS              QTOIL              QTCON              QTWTR
#          ---------  -------  ----------  -------  ----------  -------  -----------------  -----------------  -----------------  -----------------
           YMDHS      999.99   999999.99   999.99   999999.99   999.99   999999999.9999     999999999.9999     999999999.9999     999999999.9999
           YMDHS      999.99   999999.99   999.99   999999.99   999.99   999999999.9999     999999999.9999     999999999.9999     999999999.9999
           YMDHS      999.99   999999.99   999.99   999999.99   999.99   999999999.9999     999999999.9999     999999999.9999     999999999.9999

# ... TABLE CONTINUED...

       VTGAS              VTOIL              VTCON              VTWTR              SALT         PH       COMM
#      -----------------  -----------------  -----------------  -----------------  -----------  -------  ------------------------------------------------------------------
       999999999.9999     999999999.9999     999999999.9999     999999999.9999     999999.99    99.99    X (240)
       999999999.9999     999999999.9999     999999999.9999     999999999.9999     999999.99    99.99    X (240)
       999999999.9999     999999999.9999     999999999.9999     999999999.9999     999999.99    99.99    X (240)

# NOTE: YMDHS = YYYYY MM DD HHHH:SS
```

13.0 STATIC GRADIENT FORMAT (SG)

This format is used for reporting static gradient surveys. The change from previous static gradient reporting formats, is that often the only information reported was well and test information, gauge header information, and the static gradient summary. This format also includes the gauge raw data points.

13.1 SG General Information

- **DATA TABLES AND HEADERS** for subsequent gauges may be omitted if no gauges other than the source gauge were recorded.
- **RESULTS – SUMMARY** section is intended to summarize the final or representative data point from Gauge 1 (the source gauge). This is not a table for multiple data points. The gauge numbers represented in GAUGE (n) are **not** intended to indicate the sequence of gauges in the run.
- **RESULTS – SUMMARY [GRSD] (representative pressure gradient)** is used by EUB systems to correct from run depth to MPP, therefore it is important that the gradient reported here is representative of the average gradient required to calculate to the correct MPP pressure. This is especially critical if there is a major gradient change (gas/oil or gas/water contact) in that interval.
- **RESULTS – SUMMARY [PRGA]** (pressure at stop depth) is to report the most representative measured pressure. It will usually be the last measured pressure, but where anomalies are indicated in the raw data, we are expecting the licensee to determine which measured pressure is the most relevant at the end of the test.

13.2 SG Mandatory/Optional

WELL INFORMATION SECTION:

- [HLID] (hole diameter in millimeters) is mandatory if [OHCI] = "Y"
- [CSLD] (casing landed at depth) is mandatory if [OHCI] = "Y"
- [LINR] (casing liner indicator) is mandatory if [OHCI] = "Y"

13.3 Codes for SG Tests

See section 6.1.1 or Appendix C for codes WELL INFORMATION [WSFL] (well fluid status), [WSMO] (fluid mode), and [WSTY] (fluid type).

Acceptable value for TEST DATA [TTYP] (test type code) for static gradient tests is "03".

See Appendix D for TEST DATA [SERCO] (service company codes).

13.4 Critical Edits for SG Tests

Here are the generic ranges that have been set for PAS elements. All depth, pressure, temperature, rate elements will be edited to ensure they are within these ranges. However, the number of decimal places indicated here do not apply to raw data points, which generally provide for greater resolution, as indicated on the various PAS formats:

All Depths must be less than	7,000.00 M	rounded to 2 decimals
All Pressures must be less than	99,999.00 kPa	rounded to whole number
All Temperatures must be between	-100 and 1,000°C	rounded to whole number
All Times must be less than (except for DSTs which are reported in minutes, and raw data as indicated above)	100,000.0 H	rounded to 1 decimal
All gas production rates must be less than	100,000.00 E^3M^3/day	rounded to 2 decimals
All oil and water rates must be less than	100,000.00 M^3/day	rounded to 2 decimals

- WELL INFORMATION [UWI] (unique well identifier) must exist on EUB system
- WELL INFORMATION [WLIC] (well license number) must match license number for this UWI on EUB system
- WELL INFORMATION [WTYP] (well type indicator) must = “V”, “D”, or “H”
- WELL INFORMATION [OHCI] (open hole completion indicator) must = “Y” or ”N”
- WELL INFORMATION [LINR] (casing liner indicator) must = “Y” or “N” or be blank
- WELL INFORMATION [AFLO] (tubing or annular flow) must = “T”, “A”, or “C” or be blank
- TEST DATA [PRPS] (test purpose) flag must = “Y” or “N”
- TEST DATA [TTYP] (test type code) must = “03”
- TEST DATA [TBASL] (test interval base at log depth) must be > “0.0”, and
  => [TTOPL] (test interval top at log depth), and
  => [TBAST] (test base at TVD)
- TEST DATA [TTOPL] (test interval top at log depth) must be > “0.0”, and
  => [TTOPT] (test top at TVD)
- TEST DATA [TBAST] (test interval base at TVD) must be > “0.0”, and
  => [TTOPT] (test interval top at TVD)
- TEST DATA [TTOPT] (test interval top at TVD) must be > “0.0”
- TEST DATA [FTDT] (final test date) must be > spud date and <= current date or abandoned date
- TEST DATA [QGAS] (gas production rate prior to test) can be negative if [TTYP] = “03”
  (this is only for tests on gas injection wells)
- TEST DATA [QOIL] (oil production rate prior to test) can be negative if [TTYP] = “03”
  (this is only for tests on oil injection wells)
- TEST DATA [QWTR] (water production rate prior to test) can be negative if [TTYP] = “03”
  (this is only for tests on water injection wells)

13.5 Non-Critical Edits for SG Tests

- WELL INFORMATION [WSFL] (well fluid status) must equal a code as per table in section 6.1.1
- TEST DATA [TTOPT] (test top at TVD) cannot be greater than Total Well Depth
- TEST DATA [TBAST] (test base at TVD) cannot be greater than Total Well Depth
- TEST DATA [TTOPL] (test top at log depth) cannot be greater than Total Well Depth
- TEST DATA [TBASL] (test base at log depth) cannot be greater than Total Well Depth
- TEST DATA [FCSPS] (final casing pressure) must be < 35,000 kPa
- RESULTS – SUMMARY [LLV] (liquid level) cannot be greater than MPP calculated from interval top and base
- RESULTS – SUMMARY [SDGA] (gauge stop depth) must be > 100 and < total well depth
- RESULTS – SUMMARY [PRGA] (run depth pressure) must be > 0.0 and < 99,999 kPa
- RESULTS – SUMMARY [GRSD] (run depth gradient) must be > 0.001 and < 15.999
- EUB system will flag all tests where RESULTS – SUMMARY [SDGA] (gauge stop depth @ TVD) differs from MPP @ TVD by more than 20 meters, for further follow-up where necessary

Note: Report an unmeasurable trace, presence, non-applicable, or non-detected amounts of liquids or gases as "0.0001". Use a comment line, immediately following the occurrence, starting with "#" to qualify the circumstance.

13.6 SG TIFF File

A TIFF file is not required with this format, but can be submitted for the pressure depth plot and any other parameters not included in the PAS format.

13.7 SG-PAS Format

The actual SG-PAS format is detailed on the following four pages. This format may not be the latest version. All users should check the EUB website to find the latest version of PAS formats. Dates are included on the formats to determine the most recent version.

#NOTE: Definition [NUMB A,B] indicates A total digits, with B digits after the decimal (e.g.: [NUMB 5,2] = 123.45) *Release Date: December 31, 1998*

~ VERSION

# MNEM. UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
TYPE.	PAS-SG	[CHAR 7]	DIGITAL DATA- GAUGE STATIC GRADIENT TEST	Gauge - Static Gradient pressure test, format
UNIT.	M	[CHAR 1]	UNITS FLAG	Metric Units for EUB submission
VERS.	2.1	[NUMB 5,2]	CIM/EUB DIGITAL WELL TEST DATA	Current CIM/EUB version for ASCII test data submission

~ WELL INFORMATION

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
COMP.	M	[CHAR 60]	COMPANY NAME	Licensee Name
UWI .	M	[CHAR 20]	UNIQUE WELL ID	Unique well identifier - bottomhole location
WLIC.	M	[CHAR 9]	EUB WELL LICENSE NUMBER	EUB Well License Number
FORM.	M	[CHAR 20]	FORMATION NAME	Name of the geological formation/zone
WSFL.	M	[NUMB 2]	WELL FLUID STATUS AT TEST DATE	Type of production/pay or reservoir, code per EUB Guide 52 (i.e. oil, gas, water)
WSMO.	M	[NUMB 2]	WELL MODE STATUS AT TEST DATE	Current producing status of well, code per EUB Guide 52 (i.e. suspended, abandoned)
WSTY.	M	[NUMB 2]	WELL TYPE STATUS AT TEST DATE	Type of well, code per EUB Guide 52 (i.e. disposal, injection, source)
WTYP.	M	[CHAR 1]	WELL TYPE INDICATOR	Flag indicating (V)ertical, (D)eviated, or (H)orizontal Wellbore
WHDP.M	O	[NUMB 10,5]	WHIPSTOCK DEPTH M KB (TVD)	Depth of whipstock
HLID.MM	MO	[NUMB 4,1]	HOLE DIAMETER MM	Inside diameter of hole
OHCI.	M	[CHAR 1]	OPEN HOLE COMPLETION INDICATOR	Flag indicating open hole completion (Y)es or (N)o
CSLD.M	MO	[NUMB 10,5]	CASING LANDED AT DEPTH M KB (TVD)	Depth at which casing landed, if open hole completion
LINR.	MO	[CHAR 1]	CASING LINER INDICATOR	Flag indicating presence of casing liner (Y)es or (N)o
TULD.M	O	[NUMB 10,5]	TUBING LANDED AT DEPTH M KB (TVD)	Depth at which tubing is landed
PCID.MM	O	[NUMB 4,1]	PRODUCTION CASING ID MM	Inside diameter of production casing
PTOD.MM	O	[NUMB 4,1]	PRODUCTION TUBING OD MM	Outside diameter of production tubing
TUBS.MM	O	[NUMB 4,1]	PRODUCTION TUBING ID MM	Inside diameter of production tubing
PKDT.M	O	[NUMB 10,5]	PACKER SETTING DEPTH IN M KB (TVD)	Depth at which packer set
AFLO.	O	[CHAR 1]	TUBING OR ANNULAR FLOW	Flag indicating flow regime (T)ubing ,(A)nnular or (C)asing

~ TEST DATA

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
PRPS.	M	[CHAR 1]	TEST PURPOSE	Flag indicating EUB required survey (Y)es or (N)o
TTYP.	M	[NUMB 2]	TEST TYPE CODE	Test type code as per EUB Guide 52
TTNC.	O	[CHAR 20]	TEST TYPE NAME	Description type of test conducted
SERCO .	M	[CHAR 5]	SERVICE COMPANY CODE	Company conducting test (code from EUB Guide 52)
TTOPL. M	M	[NUMB 10,5]	TEST/PROD. INTERVAL TOP M KB (LOG)	Top of tested or producing interval at log depth
TBASL.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL BASE M KB (LOG)	Base of tested or producing interval at log depth
TTOPT.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL TOP M KB (TVD)	Top of tested or producing interval at true vertical depth
TBAST.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL BASE M KB (TVD)	Base of tested or producing interval at true vertical depth
STRT.DAY/HR	O	[YYYY MM DD HHHH]	TEST START DATE/TIME	Date/time test started
TISI.DAY/HR	M	[YYYY MM DD HHHH]	TIME WELL SHUT-IN	Date/time well shut-in for final BU/FO
FTDT.DAY/HR	M	[YYYY MM DD HHHH]	TEST FINAL DATE/TIME	Date/time test ended
TSUR.DEGC	O	[NUMB 5,2]	SURFACE TEMPERATURE DEGC	Temperature at surface
TUPS.KPAA	M	[NUMB 8,2]	INITIAL TUBING PRESSURE KPAA	Tubing pressure at start of test
CSPS.KPAA	M	[NUMB 8,2]	INITIAL CASING PRESSURE KPAA	Casing pressure at start of test
FTUPS.KPAA	O	[NUMB 8,2]	FINAL TUBING PRESSURE KPAA	Tubing pressure at end of test

```
 FCSPS.KPAA        O        [NUMB 8,2]            FINAL CASING PRESSURE KPAA               Casing pressure at end of test
 QGAS.E3M3/D       O        [NUMB 13,4]           GAS PRODUCTION RATE PRIOR TO TEST        Daily gas rate prior to test - can be negative for falloff - recombined for condensate
 QOIL.M3/D         O        [NUMB 13,4]           OIL PRODUCTION RATE PRIOR TO TEST        Daily oil rate prior to test - can be negative for falloff
 QWTR.M3/D         O        [NUMB 13,4]           WATER PRODUCTION RATE PRIOR TO TEST      Daily water rate prior to test - can be negative for falloff
 QDAT.DAY          O        [YYYY MM DD]          DATE OF PRODUCTION RATES                 Date production rates were measured

~ RESULTS - SUMMARY
# MNEM.UNIT     MANDATORY   DEFINITION            DESCRIPTION OF MNEMONIC                  EXPLANATION
#-------------  ----------  ------------          -------------------------------          ---------------
 GSER.             M        [CHAR 20]             GAUGE SERIAL NUMBER USED IN SUMMARY      Serial number of gauge used to represent reservoir, (must be gauge 1)
 SDGA.M            M        [NUMB 10,5]           REPRESENTATIVE STOP DEPTH M (TVD)        Stop depth representative of reservoir
 GRSD.KPA/M        M        [NUMB 5,3]            REPRESENTATIVE PRESSURE GRADIENT         Average pressure gradient, between Run Depth & MPP
 PRGA.KPAA         M        [NUMB 8,2]            PRESSURE AT STOP DEPTH KPAA              Last measured or representative pressure at SDGA above
 PRGC.             O        [CHAR 50]             COMMENT                                  Comment on pressure - comparison to trend, offsets, SI time, etc.
 TRES.DEGC         M        [NUMB 5,2]            RESERVOIR TEMPERATURE DEGC               Reservoir temperature
 LLV.M             O        [NUMB 10,5]           LIQUID LEVEL M KB (TVD)                  Estimated level of liquid in wellbore

~ DATA TABLE - GRADIENT SUMMARY
# {DTSUM - DEFINITIONS AND DESCRIPTIONS IN COMBINATION WITH DTSUM TABLE, IN ASSOCIATION WITH DTG(1)}
# MNEM.UNIT     MANDATORY   DEFINITION            DESCRIPTION OF MNEMONIC                  EXPLANATION
#-------------  ----------  ------------          -------------------------------          ---------------
 TCUM.HR           M        [NUMB 10,5]           GAUGE CUMULATIVE TIME                    Cumulative time from gauge start time
 SDGA.M            M        [NUMB 10,5]           STOP DEPTH M KB (TVD)                    Gauge stop depth
 PRGA.KPAA         M        [NUMB 8,2]            STOP PRESSURE KPAA                       Pressure measured at stop depth
 GRSD.KPA/M        M        [NUMB 5,3]            CALCULATED GRADIENT                      Gradient calculated at stop depth

~DTSUM             TCUM           SDGA                  PRGA                 GRSD
#                  ------------   ------------          ---------            -----
                   99999.99999    99999.99999           999999.99            99.999
                   99999.99999    99999.99999           999999.99            99.999
                   99999.99999    99999.99999           999999.99            99.999

~ HEADER DATA - GAUGE(1)
# {REPRESENATIVE GAUGE MUST BE ADDRESSED AS GAUGE 1, AND USED TO ESTABLISH DTSUM TABLE}
# MNEM.UNIT     MANDATORY   DEFINITION            DESCRIPTION OF MNEMONIC                  EXPLANATION
#-------------  ----------  ------------          -------------------------------          ---------------
 GSER.             M        [CHAR 20]             GAUGE SERIAL NUMBER USED AS DTSUM        Serial number of gauge
 GTYP.             M        [CHAR 30]             GAUGE TYPE                               Type of gauge used (mechanical, electronic, model)
 GMAN.             M        [CHAR 60]             GAUGE MANUFACTURER                       Name of manufacturer
 GRNG.KPAA         M        [NUMB 8,2]            MAXIMUM RECORDER RANGE KPAA              Full scale pressure range
 GCAL.DAY          M        [YYYY MM DD]          DATE OF LAST CALIBRATION                 Date gauge last calibrated
 GRES.             O        [NUMB 6,5]            PUB. RESOLUTION % OF FULL-SCALE          Gauge resolution as published
 GACC.             O        [NUMB 6,5]            PUB. ACCURACY % OF FULL-SCALE            Gauge accuracy as published
 GSTD.DAY/HR/SS    O        YYYY MM DD HHHH:SS    GAUGE START DATE/TIME                    Date/time gauge/clock started
 GSPD.DAY/HR/SS    O        YYYY MM DD HHHH:SS    GAUGE STOP DATE/TIME                     Date/time gauge/clock stopped
 SDGA.M            M        [NUMB 10,5]           GAUGE RUN DEPTH M KB (TVD)               Gauge final stop depth
 GONB.DAY/HR/SS    M        YYYY MM DD HHHH:SS    DATE/TIME GAUGE ON BOTTOM                Date/time gauge on bottom
 GOFB.DAY/HR/SS    M        YYYY MM DD HHHH:SS    DATE/TIME GAUGE OFF BOTTOM               Date/time gauge off bottom
```

```
~ DATA TABLE - GAUGE(1)
# {DTG(1) - DEFINITIONS AND DESCRIPTIONS IN COMBINATION  WITH DTG(1) IN ASSOCIATION WITH DTSUM TABLE}
# MNEM.UNIT        MANDATORY      DEFINITION              DESCRIPTION OF MNEMONIC              EXPLANATION
#--------------    -------------- --------------          ------------------------------------ ------------------
  TIME.DAY/HR/SS       M          YYYY MM DD HHHH:SS      REAL TIME                            24 Hour clock
  TCUM.HR              M          [NUMB 10,5]             GAUGE CUMULATIVE TIME                Cumulative time (hours) from gauge start time
  SDGA.M               O          [NUMB 10,5]             GAUGE DEPTH M KB (TVD)               Recorded depth of gauge
  PRGA.KPAA            M          [NUMB 8,2]              GAUGE PRESSURE KPAA                  Pressure measured at that interval in time
  TGA.DEGC             M          [NUMB 5,2]              GAUGE TEMPERATURE DEGC               Temperature measured at that interval in time
  GCOM.                O          [CHAR 240]              GAUGE/EVENTS COMMENT                 Comment on gauge/events (i.e. shut-in, open-to-flow, etc.)

~ DTG(1)     TIME        TCUM            SDGA            PRGA           TGA          GCOM
#            --------    -------------   -------------   ----------     -------      --------------------------------------------------------------------------------
             YMDHS       99999.99999     99999.99999     999999.99      999.99       X (240)
             YMDHS       99999.99999     99999.99999     999999.99      999.99       X (240)
             YMDHS       99999.99999     99999.99999     999999.99      999.99       X (240)

# NOTE: YMDHS = YYYYMMDDHHHH:SS

~ HEADER DATA - GAUGE(n)
# {SUBSEQUENT/SECDONDARY GAUGE(S)}
# {HEADER DATA AND TABLE DTG(N) CAN BE OMITTED IF SUBSEQUENT GAUGES MALFUNCTIONED}
# MNEM.UNIT        MANDATORY      DEFINITION              DESCRIPTION OF MNEMONIC              EXPLANATION
#--------------    -------------- --------------          ------------------------------------ ------------------
  GSER.                M          [CHAR 20]               GAUGE SERIAL NUMBER                  Serial number of gauge
  GTYP.                M          [CHAR 30]               GAUGE TYPE                           Type of gauge used (mechanical, electronic, model)
  GMAN.                M          [CHAR 60]               GAUGE MANUFACTURER                   Name of manufacturer
  GRNG.KPAA            M          [NUMB 8,2]              MAXIMUM RECORDER RANGE KPAA          Full scale pressure range
  GCAL.DAY             M          [YYYY MM DD]            DATE OF LAST CALIBRATION             Date gauge last calibrated
  GRES.                O          [NUMB 6,5]              PUB. RESOLUTION % OF FULL-SCALE      Gauge resolution as published
  GACC.                O          [NUMB 6,5]              PUB. ACCURACY % OF FULL-SCALE        Gauge accuracy as published
  GSTD.DAY/HR/SS       O          YYYY MM DD HHHH:SS      GAUGE START DATE/TIME                Date/time gauge/clock started
  GSPD.DAY/HR/SS       O          YYYY MM DD HHHH:SS      GAUGE STOP DATE/TIME                 Date/time gauge/clock stopped
  SDGA.M               M          [NUMB 10,5]             GAUGE RUN DEPTH M KB (TVD)           Gauge final stop depth
  GONB.DAY/HR/SS       M          YYYY MM DD HHHH:SS      DATE/TIME GAUGE ON BOTTOM            Date/time gauge on bottom
  GOFB.DAY/HR/SS       M          YYYY MM DD HHHH:SS      DATE/TIME GAUGE OFF BOTTOM           Date/time gauge off bottom

~ DATA TABLE - GAUGE(n)
# {DTG(n) - DEFINITIONS AND DESCRIPTIONS IN ASSOCIATION WITH SUBSEQUENT DATA GAUGE  TABLE(S)}
# {TABLE  DTG(n) CAN BE OMITTED IF  SUBSEQUENT GAUGES MALFUNCTIONED}
# MNEM.UNIT        MANDATORY      DEFINITION              DESCRIPTION OF MNEMONIC              EXPLANATION
#--------------    -------------- --------------          ------------------------------------ ------------------
  TIME.DAY/HR/SS       M          YYYY MM DD HHHH:SS      REAL TIME                            24 Hour clock
  TCUM.HR              M          [NUMB 10,5]             GAUGE CUMULATIVE TIME                Cumulative time (hours) from gauge start time
  SDGA.M               O          [NUMB 10,5]             GAUGE DEPTH M KB (TVD)               Recorded depth of gauge
  PRGA.KPAA            M          [NUMB 8,2]              GAUGE PRESSURE KPAA                  Pressure measured at that interval in time
  TGA.DEGC             M          [NUMB 5,2]              GAUGE TEMPERATURE DEGC               Temperature measured at that interval in time
  GCOM.                O          [CHAR 240]              GAUGE/EVENTS COMMENT                 Comment on gauge/events (i.e. shut-in, open-to-flow, etc.)
```

```
~ DTG(n)   TIME     TCUM           SDGA           PRGA        TGA      GCOM
#          -------  -------------  -------------  ----------  -------  ------------------------------------------------------------
           YMDHS    99999.99999    99999.99999    999999.99   999.99   X (240)
           YMDHS    99999.99999    99999.99999    999999.99   999.99   X (240)
           YMDHS    99999.99999    99999.99999    999999.99   999.99   X (240)

# NOTE: YMDHS = YYYYMMDDHHHH:SS
```

14.0 TRANSIENT GAUGE TEST FORMAT (TRG)

This format is used to report transient gauge tests (build-up, fall-off, draw-down, interference, segregation, etc.). It follows the format for static gradients quite closely, omitting the gradient summary, and including an analysis portion identical to analysis in the AWS and DST formats.

14.1 TRG General Information

- **DATA TABLES AND HEADERS** for subsequent gauges may be omitted if no gauges other than the source gauge were recorded.
- **RESULTS – SUMMARY** section is intended to summarize the final or representative data point from Gauge 1 (the source gauge). This is not a table for multiple data points. The gauge numbers represented in GAUGE (n) are **not** intended to indicate the sequence of gauges in the run.
- **RESULTS – SUMMARY [GRSD] (representative pressure gradient)** is used by EUB systems to correct from run depth to MPP, therefore it is important that the gradient reported here is representative of the average gradient required to calculate to the correct MPP pressure. This is especially critical if there is a major gradient change (gas/oil or gas/water contact) in that interval.
- **RESULTS – SUMMARY [PRGA] (pressure at stop depth)** is to report the most representative **measured** pressure. It will usually be the last measured pressure, but where anomalies are indicated in the raw data, we are expecting the licensee to determine which measured pressure is the most relevant at the end of the test. It is imperative that this number be matched to a corresponding number in the raw data table of Gauge 1 (source gauge) for editing of analysis and pressure stability.

14.2 TRG Mandatory/Optional

WELL INFORMATION SECTION:

- [HLID] (hole diameter in millimeters) is mandatory if [OHCI] = "Y"
- [CSLD] (casing landed at depth) is mandatory if [OHCI] = "Y"
- [LINR] (casing liner indicator) is mandatory if [OHCI] = "Y"

ANALYSIS – GENERAL INFORMATION SECTION:

- [PAVG] (representative average reservoir pressure) is mandatory if TEST DATA [PRPS] (test purpose flag) = "Y", and [TTYP] (test type code) = "04", "05" , "06", or "08", or
- [PEXTR] (representative extrapolated or false pressure) is mandatory if TEST DATA [PRPS] (test purpose flag) = "Y", and [TTYP] (test type code) = "04", "05" , "06", or "08", and [PAVG] is blank, unless pressure has stabilized (see Critical Edits below for more information)

Note: *For very prolific wells, where there is not 6 hours of build-up time, but the pressure has stabilized, report stabilized pressure as [PAVG] to pass edit; otherwise the file will be rejected if analysis is not included. Use a comment line (starting with #) to explain.*

14.3 Codes for TRG

See section 6.1.1 or Appendix C for codes WELL INFORMATION [WSFL] (well fluid status), [WSMO] (fluid mode), and [WSTY] (type).

Acceptable values for TEST DATA [TTYP] (test type) for the transient format are:

04 - Bottom Hole Build-up
05 - Bottom Hole undefined (ie. Segregation, interference)
06 - Bottom Hole Falloff
08 - Pressure Sentry (permanent downhole recorders)

#YMDHS appears in the data tables. This is an abbreviated form for YYYY MM DD HH SS (year, month, day, hour, seconds)

See Appendix D for TEST DATA [SERCO] (service company codes).

14.4 Critical Edits for TRG

Here are the generic ranges that have been set for PAS elements. All depth, pressure, temperature, rate elements will be edited to ensure they are within these ranges. However, the number of decimal places indicated here do not apply to raw data points, which generally provide for greater resolution, as indicated on the various PAS formats:

All Depths must be less than	7,000.00 M	rounded to 2 decimals
All Pressures must be less than	99,999.00 kPa	rounded to whole number
All Temperatures must be between	-100 and 1,000°C	rounded to whole number
All Times must be less than (except for DSTs which are reported in minutes, and raw data as indicated above)	100,000.0 H	rounded to 1 decimal
All gas production rates must be less than	100,000.00 E^3M^3/day	rounded to 2 decimals
All oil and water rates must be less than	100,000.00 M^3/day	rounded to 2 decimals

- WELL INFORMATION [UWI] (unique well identifier) must exist on EUB system
- WELL INFORMATION [WLIC] (well license number) must match license number for this UWI on EUB system
- WELL INFORMATION [WTYP] (well type indicator) must = "V", "D", or "H"
- WELL INFORMATION [OHCI] (open hole completion indicator) must = "Y" or "N"
- WELL INFORMATION [LINR] (casing liner indicator) must = "Y" or "N" or be blank
- WELL INFORMATION [AFLO] (tubing or annular flow) must = "T", "A", or "C" or be blank

- TEST DATA [PRPS] (test purpose) flag must = “Y” or “N”
- TEST DATA [TTYP] (test type code) must = “04”, “05”, “06”, or “08”
- TEST DATA [TBASL] (test interval base at log depth) must be > “0.0”, and
  => [TTOPL] (test interval top at log depth), and
  => [TBAST] (test base at TVD)
- TEST DATA [TTOPL] (test interval top at log depth) must be > “0.0”, and
  => [TTOPT] (test top at TVD)
- TEST DATA [TBAST] (test interval base at TVD) must be > “0.0”, and
  => [TTOPT] (test interval top at TVD)
- TEST DATA [TTOPT] (test interval top at TVD) must be > “0.0”
- TEST DATA [FTDT] (final test date) must be > spud date and <= current date or abandoned date
- TEST DATA [QGAS] (gas production rate prior to test) can be negative if [TTYP] = “06”
  (this is only for tests on gas injection wells)
- TEST DATA [QOIL] (oil production rate prior to test) can be negative if [TTYP] = “06”
  (this is only for tests on oil injection wells)
- TEST DATA [QWTR] (water production rate prior to test) can be negative if [TTYP] = “06”
  (this is only for tests on water injection wells)
- RESULTS – SUMMARY [PRGA] (run depth pressure) must be > 0.0 and < 99,999 kPa
- RESULTS – SUMMARY [PMPP] (pressure at MPP) must be > 0.0 and < 99,999 kPa

14.4.1 Critical Edits for Transient Analysis

If you are submitting a transient pressure test to fulfil requirements, the PAS file must either include analysis, or the raw data must reflect a stabilized reservoir pressure. Files not passing these edits will be rejected, with a message indicating that analysis is required.

- **The following are the critical edits to determine if analysis is present for TRG tests:**

  If TEST DATA [TTYP] (test type) = “04”, “05”, “06”, or “08” and
  TEST DATA [PRPS] (test purpose) = “Y”,

  then ANALYSIS – GENERAL INFORMATION [PAVG]
  (representative average reservoir pressure) must be > “0.0”, or

  ANALYSIS – GENERAL INFORMATION [PEXTR]
  (representative extrapolated pressure) must be > “0.0”,

OR

- The following is the process used by the EUB system to determine if a stabilized reservoir pressure has been reached:
  - Get the value reported as:
    RESULTS SUMMARY [PRGA] (last measured or representative pressure at stop depth).
  - Match this value to gauge 1 (source gauge) data table.
  - The difference in pressure over the 6 hours prior to this value must be equal to or less than 12 kPa (2 kPa per hour as defined in section 5.1 of Guide 40).
  - If a pressure reading cannot be found at the 6-hour interval prior to [PMPP] or [PRGA], the edit will look for the next previous reading and determine if the 2 kPa/hr limit has been met.

Note: *For very prolific wells, where there is not 6 hours of build-up time, but the pressure has stabilized, report stabilized pressure as [PAVG] to pass edit; otherwise file will be rejected if analysis is not included.*

IMPORTANT:

If this program cannot match the exact value reported in RESULTS SUMMARY [PMPP] or [PRGA] to a pressure point in the raw data table (from source gauge), the file will be rejected.

14.5 Non-Critical Edits for TRG

- WELL INFORMATION [WSFL] (well fluid status) must equal a code on the table in section 5.1.1
- TEST DATA [TTOPT] (test top at TVD) cannot be greater than Total Well Depth
- TEST DATA [TBAST] (test base at TVD) cannot be greater than Total Well Depth
- TEST DATA [TTOPL] (test top at log depth) cannot be greater than Total Well Depth
- TEST DATA [TBASL] (test base at log depth) cannot be greater than Total Well Depth
- TEST DATA [FCSPS] (final casing pressure) must be < 35,000 kPa
- TEST DATA [FTUPS] (final tubing pressure) must be < 35,000 kPa
- RESULTS – SUMMARY [SDGA] (gauge stop depth @ TVD) must be > 100 and <= well total depth
- RESULTS – SUMMARY [GRSD] (run depth gradient) must be > 0.001 and < 15.999
- EUB system will flag all tests where RESULTS – SUMMARY [SDGA] (gauge stop depth @ TVD) differs from MPP @ TVD by more than 20 meters, for further follow-up where necessary.

- If ANALYSIS – GENERAL INFORMATION [PAVG] (representative average reservoir pressure) is > [PMPP] for a build-up test, and < [PMPP] for a fall-off test.

- ANALYSIS – GENERAL INFORMATION [PEXTR] (representative extrapolated/false pressure) is > [PMPP] for a build-up test, and < [PMPP] for a fall-off test.

- EUB system will flag all tests where ANALYSIS – GENERAL INFORMATION [PAVG] (representative average reservoir pressure) differs from RESULTS – SUMMARY [PMPP] (representative bottomhole pressure at MPP) by > 25%.

- EUB system will flag all tests where ANALYSIS – GENERAL INFORMATION [PEXTR] (representative extrapolated/false pressure) differs from RESULTS – SUMMARY [PMPP] (representative bottomhole pressure at MPP) by > 25%.

Note: Report an unmeasurable trace, presence, non-applicable, or non-detected amounts of liquids or gases as "0.0001". Use a comment line, immediately following the occurrence, starting with "#" to qualify the circumstance.

14.6 TRG TIFF File

A TIFF file is required for all transient tests and can be used to report any other parameters not included in the PAS format. The TIFF file should also include a plot indicating the pressure build-up (or fall-off) and any charts, graphs, plots or text from analysis.

14.7 TRG-PAS Format

The actual TRG-PAS format is detailed on the following five pages. This format may not be the latest version. All users should check the EUB website to find the latest version of PAS formats. Dates are included on the formats to determine the most recent version.

#NOTE: Definition [NUMB A,B] indicates A total digits, with B digits after the decimal (e.g.: [NUMB 5,2] = 123.45) *Release Date: December 31, 1998*

~ VERSION

# MNEM. UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
TYPE.	PAS-TRG	[CHAR 7]	DIGITAL DATA - GAUGE TRANSIENT TEST	Gauge - Flow and Buildup or Falloff pressure test, format
UNIT.	M	[CHAR 1]	UNITS FLAG	Metric Units for EUB submission
VERS.	2.1	[NUMB 5,2]	CIM/EUB DIGITAL WELL TEST DATA	Current CIM/EUB version for ASCII test data submission

~WELL INFORMATION

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
COMP.	M	[CHAR 60]	COMPANY NAME	Licensee Name
UWI .	M	[CHAR 20]	UNIQUE WELL ID	Unique well identifier - bottomhole location
WLIC.	M	[CHAR 9]	EUB WELL LICENSE NUMBER	EUB Well License Number
FORM.	M	[CHAR 20]	FORMATION NAME	Name of the geological formation/zone
WSFL.	M	[NUMB 2]	WELL FLUID STATUS AT TEST DATE	Type of production/pay or reservoir, code per EUB Guide 52 (i.e. oil, gas, water)
WSMO.	M	[NUMB 2]	WELL MODE STATUS AT TEST DATE	Current producing status of well, code per EUB Guide 52 (i.e. suspended, abandoned)
WSTY.	M	[NUMB 2]	WELL TYPE STATUS AT TEST DATE	Type of well, code per EUB Guide 52 (i.e. disposal, injection, source)
WTYP.	M	[CHAR 1]	WELL TYPE INDICATOR	Flag indicating (V)ertical, (D)eviated, or (H)orizontal Wellbore
WHDP.M	O	[NUMB 10,5]	WHIPSTOCK DEPTHM KB (TVD)	Depth of whipstock
HLID.MM	MO	[NUMB 4,1]	HOLE DIAMETER MM	Inside diameter of hole
OHCI.	M	[CHAR 1]	OPEN HOLE COMPLETION INDICATOR	Flag indicating open hole completion (Y)es or (N)o
CSLD.M	MO	[NUMB 10,5]	CASING LANDED AT DEPTH M KB (TVD)	Depth at which casing landed, if open hole completion
LINR.	MO	[CHAR 1]	CASING LINER INDICATOR	Flag indicating presence of casing liner (Y)es or (N)o
TULD.M	O	[NUMB 10,5]	TUBING LANDED AT DEPTH M KB (TVD)	Depth at which tubing is landed
PCID.MM	O	[NUMB 4,1]	PRODUCTION CASING ID MM	Inside diameter of production casing
PTOD.MM	O	[NUMB 4,1]	PRODUCTION TUBING OD MM	Outside diameter of production tubing
TUBS.MM	O	[NUMB 4,1]	PRODUCTION TUBING ID MM	Inside diameter of production tubing
PKDT.M	O	[NUMB 10,5]	PACKER SETTING DEPTH IN M KB (TVD)	Depth at which packer set
AFLO .	O	[CHAR 1]	TUBING OR ANNULAR FLOW	Flag indicating flow regime (T)ubing, (A)nnular or (C)asing

~TEST DATA

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
PRPS.	M	[CHAR 1]	TEST PURPOSE	Flag indicating EUB required survey (Y)es or (N)o
TTYP.	M	[NUMB 2]	TEST TYPE CODE	Test type code as per EUB Guide 52
TTNC.	O	[CHAR 20]	TEST TYPE NAME	Description type of test conducted
SERCO.	M	[CHAR 5]	SERVICE COMPANY CODE	Company conducting test (code from EUB Guide 52)
TTOPL. M	M	[NUMB 10,5]	TEST/PROD. INTERVAL TOP M KB (LOG)	Top of tested or producing interval at log depth
TBASL.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL BASE M KB (LOG)	Base of tested or producing interval at log depth
TTOPT.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL TOP M KB (TVD)	Top of tested or producing interval at true vertical depth
TBAST.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL BASE M KB (TVD)	Base of tested or producing interval at true vertical depth
STRT.DAY/HR	O	[YYYY MM DD HHHH]	TEST START DATE/TIME	Date/time test started
TISI.DAY/HR	M	[YYYY MM DD HHHH]	TIME WELL SHUT-IN	Date/time well shut-in for final BU/FO
FTDT.DAY/HR	M	[YYYY MM DD HHHH]	TEST FINAL DATE/TIME	Date/time test ended
TSUR.DEGC	O	[NUMB 5,2]	SURFACE TEMPERATURE DEGC	Temperature at surface
TUPS.KPAA	O	[NUMB 8,2]	INITIAL TUBING PRESSURE KPAA	Tubing pressure at start of test
CSPS.KPAA	O	[NUMB 8,2]	INITIAL CASING PRESSURE KPAA	Casing pressure at start of test
FTUPS.KPAA	O	[NUMB 8,2]	FINAL TUBING PRESSURE KPAA	Tubing pressure at end of test

```
  FCSPS.KPAA          O          [NUMB 8,2]             FINAL CASING PRESSURE KPAA               Casing pressure at end of test
  QGAS.E3M3/D         O          [NUMB 13,4]            GAS PRODUCTION RATE PRIOR TO TEST        Daily gas rate prior to test - can be negative for falloff - recombined for condensate
  QOIL.M3/D           O          [NUMB 13,4]            OIL PRODUCTION RATE PRIOR TO TEST        Daily oil rate prior to test - can be negative for falloff
  QWTR.M3/D           O          [NUMB 13,4]            WATER PRODUCTION RATE PRIOR TO TEST      Daily water rate prior to test - can be negative for falloff
  QDAT.DAY            O          [YYYY MM DD]           DATE OF PRODUCTION RATES                 Date production rates were measured

~ RESULTS - SUMMARY
# MNEM.UNIT       MANDATORY      DEFINITION             DESCRIPTION OF MNEMONIC                  EXPLANATION
# -----------     -----------    ----------             ----------------------------             ---------------
  GSER.               M          [CHAR 20]              GAUGE SERIAL NUMBER USED IN SUMMARY      Serial number of gauge used to represent reservoir (must be source gauge)
  SDGA.M              M          [NUMB 10,5]            REPRESENTATIVE STOP DEPTH M (TVD)        Stop depth representative of reservoir (via source gauge)
  GRSD.KPA/M          M          [NUMB 5,3]             REPRESENTATIVE PRESSURE GRADIENT         Average pressure gradient between Run Depth & MPP
  PRGA.KPAA           M          [NUMB 8,2]             PRESSURE AT STOP DEPTH KPAA              Last measured or representative pressure at SDGA above (via source gauge)
  PMPP.KPAA           M          [NUMB 8,2]             REPRESENTATIVE BOTTOM HOLE PRESSURE      Last measured, calculated or most representative pressure corrected to MPP (TVD), kPaa
  PRGC.               O          [CHAR 50]              COMMENT                                  Comment on pressure - comparison to trend, offsets, SI time, etc.
  TRES.DEGC           M          [NUMB 5,2]             RESERVOIR TEMPERATURE DEGC               Reservoir temperature
  LLV.M               O          [NUMB 10,5]            LIQUID LEVEL M KB (TVD)                  Estimated level of liquid in wellbore

~ HEADER DATA – GAUGE(1)
# {SOURCE GAUGE MUST BE ADDRESSED AS GAUGE 1, SEE DTG(1) BELOW}
# MNEM.UNIT       MANDATORY      DEFINITION             DESCRIPTION OF MNEMONIC                  EXPLANATION
# -----------     -----------    ----------             ----------------------------             ---------------
  GSER.               M          [CHAR 20]              GAUGE SERIAL NUMBER USED IN DTG(1)       Serial number of source gauge used to represent reservoir
  GTYP.               M          [CHAR 30]              GAUGE TYPE                               Type of gauge used (mechanical, electronic, model), for source data
  GMAN.               M          [CHAR 60]              GAUGE MANUFACTURER                       Name of manufacturer of source gauge
  GRNG.KPAA           M          [NUMB 8,2]             MAXIMUM RECORDER RANGE KPAA              Full scale pressure range of source gauge
  GCAL.DAY            M          [YYYY MM DD]           DATE OF LAST CALIBRATION                 Date source gauge last calibrated
  GRES.               O          [NUMB 6,5]             PUB. RESOLUTION % OF FULL-SCALE          Published resolution of source gauge
  GACC.               O          [NUMB 6,5]             PUB. ACCURACY % OF FULL-SCALE            Published accuracy of source gauge
  GSTD.DAY/HR/SS      O          YYYY MM DD HHHH:SS     GAUGE START DATE/TIME                    Date/time source gauge/clock started
  GSPD.DAY/HR/SS      O          YYYY MM DD HHHH:SS     GAUGE STOP DATE/TIME                     Date/time source gauge/clock stopped
  SDGA.M              M          [NUMB 10,5]            GAUGE RUN DEPTH M KB (TVD)               Source gauge final stop depth
  GONB.DAY/HR/SS      M          YYYY MM DD HHHH:SS     DATE/TIME GAUGE ON BOTTOM                Date/time source gauge on bottom
  GOFB.DAY/HR/SS      M          YYYY MM DD HHHH:SS     DATE/TIME GAUGE OFF BOTTOM               Date/time source gauge off bottom

~ DATA TABLE - GAUGE (1)
# {DTG(1) - DEFINITIONS AND DESCRIPTIONS IN ASSOCIATION WITH "SOURCE GAUGE " DATA TABLE}
# MNEM.UNIT       MANDATORY      DEFINITION             DESCRIPTION OF MNEMONIC                  EXPLANATION
# -----------     -----------    ----------             ----------------------------             ---------------
  TIME.DAY/HR/SS      M          YYYY MM DD HHHH: SS    REAL TIME                                24 Hour clock
  TCUM.HR             M          [NUMB 10,5]            GAUGE CUMULATIVE TIME                    Cumulative time (hours) from source gauge start time
  SDGA.M              O          [NUMB 10,5]            GAUGE DEPTH M KB (TVD)                   Recorded depth of source gauge
  PRGA.KPAA           M          [NUMB 8,2]             GAUGE PRESSURE KPAA                      Pressure measured at that interval in time via source gauge
  TGA.DEGC            M          [NUMB 5,2]             GAUGE TEMPERATURE DEGC                   Temperature measured at that interval in time via source gauge
  GCOM.               O          [CHAR 240]             GAUGE/EVENTS COMMENT                     Comment on source gauge/events (i.e. SI, open to flow, etc.)
```

```
~ DTG(1)              TIME       TCUM           SDGA           PRGA         TGA       GCOM
#                     -------    ------------   ------------   ----------   ------    ---------------------------------------------------------------
                      YMDHS      99999.99999    99999.99999    999999.99    999.99    X (240)
                      YMDHS      99999.99999    99999.99999    999999.99    999.99    X (240)
                      YMDHS      99999.99999    99999.99999    999999.99    999.99    X (240)

# NOTE: YMDHS = YYYYMMDDHHHH:SS

~ HEADER DATA - GAUGE (n)
# {SUBSEQUENT/SECDONDARY GAUGE(S)}
# {HEADER DATA AND TABLE  DTG(n) CAN BE OMITTED IF  SUBSEQUENT GAUGES MALFUNCTIONED}
# MNEM.UNIT          MANDATORY     DEFINITION           DESCRIPTION OF MNEMONIC                        EXPLANATION
# -------------      -----------   ------------         ------------------------------                 ----------------
  GSER.                  M         [CHAR 20]            GAUGE SERIAL NUMBER USED IN DTG(N)             Serial number of gauge used  (subsequent to source gauge)
  GTYP.                  M         [CHAR 30]            GAUGE TYPE                                     Type of gauge used (mechanical, electronic, model)
  GMAN.                  M         [CHAR 60]            GAUGE MANUFACTURER                             Name of manufacturer
  GRNG.KPAA              M         [NUMB 8,2]           MAXIMUM RECORDER RANGE KPAA                    Full scale pressure range
  GCAL.DAY               M         [YYYY MM DD]         DATE OF LAST CALIBRATION                       Date gauge last calibrated
  GRES.                  O         [NUMB 6,5]           PUB. RESOLUTION % OF FULL-SCALE                Published gauge resolution
  GACC.                  O         [NUMB 6,5]           PUB. ACCURACY % OF FULL-SCALE                  Published gauge accuracy
  GSTD.DAY/HR/SS         O         YYYY MM DD HHHH:SS   GAUGE START DATE/TIME                          Date/time subsequent gauge/clock started
  GSPD.DAY/HR/SS         O         YYYY MM DD HHHH:SS   GAUGE STOP DATE/TIME                           Date/time subsequent gauge/clock stopped
  SDGA.M                 M         [NUMB 10,5]          GAUGE RUN DEPTH M KB (TVD)                     Gauge final stop depth
  GONB.DAY/HR/SS         M         YYYY MM DD HHHH:SS   DATE/TIME GAUGE ON BOTTOM                      Date/time subsequent gauge (to source) on bottom
  GOFB.DAY/HR/SS         M         YYYY MM DD HHHH:SS   DATE/TIME GAUGE OFF BOTTOM                     Date/time subsequent gauge (to source) off bottom

~ DATA TABLE - GAUGE(n)
# {DTG(n) - DEFINITIONS AND DESCRIPTIONS IN ASSOCIATION WITH SUBSEQUENT DATA GAUGE  TABLE(S)}
# {TABLE DTG(n) CAN BE OMITTED IF  SUBSEQUENT GAUGES MALFUNCTIONED}
# MNEM.UNIT          MANDATORY     DEFINITION           DESCRIPTION OF MNEMONIC                        EXPLANATION
# -------------      -----------   ------------         ------------------------------                 ----------------
  TIME.DAY/HR/SS         M         YYYY MM DD HHHH:SS   REAL TIME                                      24 Hour clock
  TCUM.HR                M         [NUMB 10,5]          GAUGE CUMULATIVE TIME                          Cumulative time (hours) from subsequent gauge start time
  SDGA.M                 O         [NUMB 10,5]          GAUGE DEPTH M KB (TVD)                         Recorded depth of subsequent gauge
  PRGA.KPAA              M         [NUMB 8,2]           GAUGE PRESSURE KPAA                            Pressure measured at that interval in time of subsequent gauge
  TGA.DEGC               M         [NUMB 5,2]           GAUGE TEMPERATURE DEGC                         Temperature measured at that interval in time
  GCOM.                  O         [CHAR 240]           GAUGE/EVENTS COMMENT                           General comment on gauge/events (i.e. SI, open to flow, etc.)

~ DTG(n)          TIME       TCUM           SDGA           PRGA         TGA       GCOM
#                 -------    ------------   ------------   ----------   ------    ---------------------------------------------------------------
                  YMDHS      99999.99999    99999.99999    999999.99    999.99    X (240)
                  YMDHS      99999.99999    99999.99999    999999.99    999.99    X (240)
                  YMDHS      99999.99999    99999.99999    999999.99    999.99    X (240)

# NOTE: YMDHS = YYYYMMDDHHHH:SS
```

~ ANALYSIS - GENERAL INFORMATION

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
ADAT. DAY	O	[YYYY MM DD]	DATE ANALYSIS COMPLETED	Date analysis finalized
ANCO.	O	[CHAR 20]	COMPANY CONDUCTING ANALYSIS	Name of firm that conducted analysis
ANAM.	O	[CHAR 20]	ANALYST'S NAME	Name of individual that conducted analysis
PHASE.	O	[CHAR 1]	DOMINANT PHASE USED IN ANALYSIS	Flag indicating phase dominant for analysis (O)il, (G)as, (W)ater
TRET.	O	[CHAR 20]	LAST TREATMENT	Specifics of last treatment
DTRET.DAY	O	[YYYY MM DD]	DATE OF LAST TREATMENT	Date last treatment or stimulation conducted, as above
GENC.	O	[CHAR 240]	UNSPECIFIED GENERAL COMMENT	Analyst free form field for any use
PEXTR.KPAA	MO	NUMB 8,2]	REPRESENTATIVE EXTRAP/ FALSE PRESSURE	Commonly known as P* kPaa (carried from representative analysis)
PAVG.KPAA	MO	[NUMB 8,2]	REPRESENTATIVE AVG RESERVOIR PRESSURE	Best estimate of reservoir pressure kPaa (carried from representative analysis)

~ ANALYSIS - INPUT PARAMETERS

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
SATW.FRACTION	O	[NUMB 3,2]	ASSUMED WATER SATURATION FRACTION	Water saturation assumed for this analysis
SATG.FRACTION	O	[NUMB 3,2]	ASSUMED GAS SATURATION FRACTION	Gas saturation assumed for this analysis
SATO.FRACTION	O	[NUMB 3,2]	ASSUMED OIL SATURATION FRACTION	Oil saturation assumed for this analysis
HZFL.M	MO	[NUMB 10,5]	HORIZONTAL WELL LENGTH IN FORMATION	Must be >0, if WTYP is Horizontal
PAY.M	O	[NUMB 10,5]	VERTICAL HEIGHT OF FORMATION M	Net pay or height of formation
PORO.FRACTION	O	[NUMB 4,3]	ASSUMED POROSITY FRACTION	Porosity of reservoir assumed for this analysis
GEOC.	O	[CHAR 50]	GEOLOGICAL COMMENTS	General free form comment, regarding geology

~ ANALYSIS - FLUID PROPERTIES

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
PVTP.KPAA	O	[NUMB 8,2]	PVT REFERENCE PRESSURE KPAA	Reference pressure from PVT analysis
RDOIL.	O	[NUMB 4,3]	OIL RELATIVE DENSITY	Oil relative density to water (unit-less)
RDGAS.O		[NUMB 4,3]	GAS RELATIVE DENSITY	Gas relative density to air (unit-less)
RDWTR.	O	[NUMB 4,3]	WATER RELATIVE DENSITY	Water relative density to water (unit-less)
CT.KPA-1	O	[NUMB 9,8]	TOTAL COMPRESSIBILITY KPA	Total compressibility, kPa^{-1}
UOIL.MPAS	O	[NUMB 12,8]	OIL VISCOSITY	Viscosity oil
UGAS.MPAS	O	[NUMB 9,8]	GAS VISCOSITY	Viscosity gas
Z.	O	[NUMB 4,2]	GAS DEVIATION FACTOR	
BO.RM3/M3	O	[NUMB 4,2]	OIL FORMATION VOLUME FACTOR	Oil shrinkage factor from surface to reservoir conditions
RS.M3/M3	O	[NUMB 7,2]	OIL SOLUTION GOR	Solution gas oil ratio
PBP.KPAA	O	[NUMB 8,2]	OIL BUBBLE POINT PRESSURE KPAA	Bubble point pressure of oil

~ ANALYSIS - INTERPRETATION (n)

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
ANUM.	O	[NUMB 2]	ANALYSIS NUMBER	Assign number for each analysis (use 1 for most likely case)
ANTYP.	O	[CHAR 2]	BUILDUP OR FALLOFF ANALYSIS	Flag indicating type of analysis (BU) or (FO)
TFLO.HR	O	[NUMB 10,5]	FLOW TIME PERIOD BEFORE TRANSIENT	Preceding flow period time in hours
PWF.KPAA	O	[NUMB 8,2]	SANDFACE FLOWING PRESSURE AT SHUT-IN	Flowing sandface pressure at shut-in, kPaa
TEVN.HR	O	[NUMB 10,5]	DURATION OF BUILDUP OR FALLOFF TIME	Duration of shut-in period used for analysis
MODLC.	O	[CHAR 240]	MODEL USED FOR ANALYSIS COMMENT	Describe type of model used to analyze data
PHASC.	O	[CHAR 240]	MULTI OR SINGE PHASE COMMENT	Comment on assumption of flow regime in reservoir
KH.MD	O	[NUMB 8,2]	CALCULATED FLOW CAPACITY	Flow capacity (e.g. use limiting KH on composite model)

KHC.	O	[CHAR 240]	COMMENTS ON KH	Open use on comments to qualify KH
STORC.M3/KPA	O	[NUMB 10,9]	WELLBORE STORAGE CONSTANT	Constant used for wellbore storage in calculations
XF.M	O	[NUMB 4]	FRACTURE HALF LENGTH	
SKIN.	O	[NUMB 5,2]	CALCULATED SKIN FACTOR	Mechanical skin if available, or total skin
SKINC.	O	[CHAR 240]	COMMENTS ON SKIN	Turbulence, partial penetration, etc.
LMP.KPAA	O	[NUMB 8,2]	LAST MEASURED PRESSURE AT MPP (TVD)	Last measured (or most representative) pressure from source gauge kPaa
LMPC.	O	[CHAR 240]	SOURCE OF LAST MEASURED PRESSURE	Comment on final transient point used, or subsequent static gradient
PEXTR.KPAA	O	[NUMB 8,2]	EXTRAPOLATED/ FALSE PRESSURE AT MPP TVD	Commonly known as P*, kPaa
PAVG.KPAA	O	[NUMB 8,2]	AVERAGE RESERVOIR PRESSURE AT MPP (TVD)	Best estimate of reservoir pressure, kPaa
PAVGC.O		CHAR 240]	METHOD TO CALCULATE AVERAGE PRESSURE	Methodology for determining average reservoir pressure
SHAPC.	O	[CHAR 240]	COMMENT ON RESERVOIR SHAPE	Deitz factor and shape assumed
AREA.HA	O	[NUMB 6,1]	AREAL EXTENT OF RESERVOIR IN HECTARES	Calculated or assumed value
BNDYC.	O	[CHAR 240]	DISCUSSION OF BOUNDARIES COMMENT	
AOFST.E3M3/D	O	[NUMB 13,4]	GAS WELL STABILIZED AOF	Stabilized AOF capability for gas well
AOFTR.E3M3/D	O	[NUMB 13,4]	GAS WELL TRANSIENT AOF	Transient AOF capability for gas well
IPRST.M3/D	O	[NUMB 13,4]	OIL WELL STABILIZED IPR	Stabilized inflow performance ratio for oil well
IPRTR.M3/D	O	[NUMB 13,4]	OIL WELL TRANSIENT IPR	Transient inflow performance ratio for oil well
PTIM.HR	O	[NUMB 10,5]	PRODUCING TIME - HOURS	
HTIM.HR	O	[NUMB 10,5]	HORNER PRODUCING TIME - HOURS	Assumed producing time for Horner time hours

15.0 WATER ANALYSIS FORMAT (WAN)

This format is used to report analysis of water samples gathered from a specific well. Any elements not provided for in the WAN-PAS file format can be included in the TIFF file, or in comment lines beginning with #.

It is not intended to report analysis of water samples gathered from treatment facilities or plants

15.1 WAN General Information

- **TEST DATA [PRPS] (test purpose)** flag has been omitted from the WAN-PAS format. Although water analysis must be submitted when conducted at a well, the EUB currently can not determine what water analysis was conducted. Therefore, the EUB does not intend to administer submission of water analysis on a requirement basis, although some type of audit may be done in the future.
- Trace amounts too small to measure, should be reported as .0001. Use a comment line beginning with # to qualify.

15.2 WAN Mandatory/Optional

There are no Mandatory/Optional elements for the WAN format.

15.3 Codes for WAN

See section 6.1.1 or Appendix C for codes WELL INFORMATION [WSFL] (well fluid status), [WSMO] (fluid mode), and [WSTY] (fluid type).

Acceptable values for TEST DATA [SPNT] (sample gathering points) are:

20 - High Pressure Separator (>2000kpa)
30 - Wellhead
40 - Other (i.e. meter run, pressure tank, tubing, "Low Pressure Separator" (<2000kpa)
50 - DST

15.4 Critical Edits for WAN

Here are the generic ranges that have been set for PAS elements. All depth, pressure, temperature, rate elements will be edited to ensure they are within these ranges. However, the number of decimal places indicated here do not apply to raw data points, which generally provide for greater resolution, as indicated on the various PAS formats:

All Depths must be less than	7,000.00 M	rounded to 2 decimals
All Pressures must be less than	99,999.00 kPa	rounded to whole number
All Temperatures must be between	-100 and 1,000°C	rounded to whole number
All Times must be less than (except for DSTs which are reported in minutes, and raw data as indicated above)	100,000.0 H	rounded to 1 decimal
All gas production rates must be less than	100,000.00 E^3M^3/day	rounded to 2 decimals
All oil and water rates must be less than	100,000.00 M^3/day	rounded to 2 decimals

- WELL INFORMATION [UWI] (unique well identifier) must exist on EUB system

- WELL INFORMATION [WLIC] (well license number) must match license number for this UWI on EUB system

- WELL INFORMATION [WTYP] (well type indicator) must = “V”, “D”, or “H”

- TEST DATA [TBASL] (test interval base at log depth) must be > “0.0”, and
  => [TTOPL] (test interval top at log depth), and
  => [TBAST] (test base at TVD)

- TEST DATA [TTOPL] (test interval top at log depth) must be > “0.0”, and
  => [TTOPT] (test top at TVD)

- TEST DATA [TBAST] (test interval base at TVD) must be > “0.0”, and
  => [TTOPT] (test interval top at TVD)

- TEST DATA [TTOPT] (test interval top at TVD) must be > “0.0”

- TEST DATA [SOLG] (solution gas indicator) must equal “S” or “N”

- TEST DATA [SPNT] (sample point code) must equal “20”, “30”, “40”, “50”, or “60”

15.5 Non-Critical Edits for WAN Files

- TEST DATA [TTOPT] (test top at TVD) cannot be greater than Total Well Depth

- TEST DATA [TBAST] (test base at TVD) cannot be greater than Total Well Depth

- TEST DATA [TTOPL] (test top at log depth) cannot be greater than Total Well Depth

- TEST DATA [TBASL] (test base at log depth) cannot be greater than Total Well Depth

Note: Report an unmeasurable trace, presence, non-applicable, or non-detected amounts of liquids or gases as “0.0001”. Use a comment line, immediately following the occurrence, starting with “#” to qualify the circumstance.

15.6 WAN TIFF File

A TIFF file is not required for the WAN format, but should be used to include plots or text from the analysis to report any other parameters not included in the PAS format.

15.7 WAN-PAS Format

The actual WAN format is detailed on the following three pages. This format may not be the latest version. All users should check the EUB website to find the latest version of PAS formats. Dates are included on the formats to determine the most recent version.

#NOTE: Definition [NUMB A,B] indicates A total digits, with B digits after the decimal (e.g.: [NUMB 5,2] = 123.45) *Release Date: December 31, 1998*

~ VERSION

# MNEM. UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
TYPE.	PAS-WAN	[CHAR 7]	DIGITAL DATA - WATER ANALYSIS	Water Analysis test, format
UNIT.	M	[CHAR 1]	UNITS FLAG	Metric Units for EUB submission
VERS.	2.1	[NUMB 5,2]	CIM/EUB DIGITAL WELL TEST DATA	Current CIM/EUB version for ASCII test data submission

~ WELL INFORMATION

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
COMP.	M	[CHAR 60]	COMPANY NAME	Licensee Name
UWI .	M	[CHAR 20]	UNIQUE WELL ID	Unique well identifier - bottomhole location
WLIC.	M	[CHAR 9]	EUB WELL LICENSE NUMBER	EUB Well License Number
FORM.	M	[CHAR 20]	FORMATION NAME	Name of the geological formation/zone
WSFL.	M	[NUMB 2]	WELL FLUID STATUS AT TEST DATE	Type of production/pay or reservoir, code per EUB Guide 52 (i.e. oil, gas, water)
WSMO.	M	[NUMB 2]	WELL MODE STATUS AT TEST DATE	Current producing status of well, code per EUB Guide 52 (i.e. suspended, abandoned)
WSTY.	M	[NUMB 2]	WELL TYPE STATUS AT TEST DATE	Type of well, code per EUB Guide 52 (i.e. disposal, injection, source)
WTYP.	M	[CHAR 1]	WELL TYPE INDICATOR	Flag indicating (V)ertical, (D)eviated, or (H)orizontal Wellbore

~ TEST DATA

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION OF MNEMONIC	EXPLANATION
LABCO.	M	[CHAR 60]	LABORATORY OR SERVICE COMPANY	Company name conducting analysis
LFNUM.	M	[CHAR 25]	LABORATORY FILE NUMBER	Identification number
TTOPL.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL TOP M KB (LOG)	Top of tested or producing interval at log depth
TBASL.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL BASE M KB (LOG)	Base of tested or producing interval at log depth
TTOPT.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL TOP M KB (TVD)	Top of tested or producing interval at true vertical depth
TBAST.M	M	[NUMB 10,5]	TEST/PROD. INTERVAL BASE M KB (TVD)	Base of tested or producing interval at true vertical depth
SDAT.DAY	M	[YYYY MM DD]	DATE SAMPLED	Date sample gathered
IDENT.	M	[CHAR 12]	CONTAINER IDENTITY	Identification code of container
SPNT.	M	[NUMB 2]	SAMPLE POINT CODE	Sample gathering point, code per EUB Guide 52
SPNTN.	M	[CHAR 50]	SAMPLE POINT NAME	Sample gathering point name, description
ADAT.DAY	M	[YYYY MM DD]	DATE ANALYZED	Date analysis conducted
ANAM.	O	[CHAR 20]	ANALYST'S NAME	Name of individual that conducted analysis
WANC.	O	[CHAR 50]	COMMENT	Free form general comments

~ CATIONS

# MNEM.UNIT	MANDATORY	DEFINITION	DESCRIPTION	EXPLANATION
NA.MG/L	O	[NUMB 9,2]	SODIUM CATION	Sodium mg/l
NA.FRACTION	O	[NUMB 6,4]	SODIUM CATION MASS FRACTION	Sodium mg fraction
NA.MEQ/L	O	[NUMB 9,2]	SODIUM CATION CONCENTRATION	Sodium, milli-equivalent
K.MG/L	O	[NUMB 9,2]	POTASSIUM CATION	Potassium mg/l
K.FRACTION	O	[NUMB 6,4]	POTASSIUM CATION MASS FRACTION	Potassium mg fraction
K.MEQ/L	O	[NUMB 9,2]	POTASSIUM CATION CONCENTRATION	Potassium, milli-equivalent
CA.MG/L	O	[NUMB 9,2]	CALCIUM CATION	Calcium mg/l
CA.FRACTION	O	[NUMB 6,4]	CALCIUM CATION MASS FRACTION	Calcium mg fraction
CA.MEQ/L	O	[NUMB 9,2]	CALCIUM CATION CONCENTRATION	Calcium, milli-equivalent

```
   MG.MG/L             O          [NUMB 9,2]      MAGNESIUM CATION                           Magnesium mg/l
   MG.FRACTION         O          [NUMB 6,4]      MAGNESIUM CATION MASS FRACTION             Magnesium mg fraction
   MG.MEQ/L            O          [NUMB 9,2]      MAGNESIUM CATION CONCENTRATION             Magnesium, milli-equivalent
   BA.MG/L             O          [NUMB 9,2]      BARIUM CATION                              Barium mg/l
   BA.FRACTION         O          [NUMB 6,4]      BARIUM CATION MASS FRACTION                Barium mg fraction
   BA.MEQ/L            O          [NUMB 9,2]      BARIUM CATION CONCENTRATION                Barium, milli-equivalent
   SR.MG/L             O          [NUMB 9,2]      STRONTIUM CATION                           Strontium mg/l
   SR.FRACTION         O          [NUMB 6,4]      STRONTIUM CATION MASS FRACTION             Strontium mg fraction
   SR.MEQ/L            O          [NUMB 9,2]      STRONTIUM CATION CONCENTRATION             Strontium, milli-equivalent
   FE.MG/L             O          [NUMB 9,2]      IRON CATION                                Iron mg/l
   FE.FRACTION         O          [NUMB 6,4]      IRON CATION MASS FRACTION                  Iron mg fraction
   FE.MEQ/L            O          [NUMB 9,2]      IRON CATION CONCENTRATION                  Iron, milli-equivalent
   MN.MG/L             O          [NUMB 9,2]      MANGANESE CATION                           Manganese mg/l
   MN.FRACTION         O          [NUMB 6,4]      MANGANESE CATION MASS FRACTION             Manganese mg fraction
   MN.MEQ/L            O          [NUMB 9,2]      MANGANESE CATION CONCENTRATION             Manganese, milli-equivalent
   B.MG/L              O          [NUMB 9,2]      BORON CATION                               Boron mg/l
   B.FRACTION          O          [NUMB 6,4]      BORON CATION MASS FRACTION                 Boron mg fraction
   B.MEQ/L             O          [NUMB 9,2]      BORON CATION CONCENTRATION                 Boron, milli-equivalent

~ ANIONS
# MNEM.UNIT        MANDATORY      DEFINITION      DESCRIPTION                                EXPLANATION
# -------------    -----------    -----------     --------------                             --------------
   CL.MG/L             O          [NUMB 9,2]      CHLORIDE ANION                             Chloride mg/l
   CL.FRACTION         O          [NUMB 6,4]      CHLORIDE ANION MASS FRACTION               Chloride mg fraction
   CL.MEQ/L            O          [NUMB 9,2]      CHLORIDE ANION CONCENTRATION               Chloride, milli-equivalent
   BR.MG/L             O          [NUMB 9,2]      BROMIDE ANION                              Bromide mg/l
   BR.FRACTION         O          [NUMB 6,4]      BROMIDE ANION MASS FRACTION                Bromide mg fraction
   BR.MEQ/L            O          [NUMB 9,2]      BROMIDE ANION CONCENTRATION                Bromide, milli-equivalent
   I.MG/L              O          [NUMB 9,2]      IODIDE ANION                               Iodide mg/l
   I.FRACTION          O          [NUMB 6,4]      IODIDE ANION FRACTION                      Iodide mg fraction
   I.MEQ/L             O          [NUMB 9,2]      IODIDE ANION CONCENTRATION                 Iodide, milli-equivalent
   HCO3.MG/L           O          [NUMB 9,2]      BICARBONATE ANION                          Bicarbonate mg/l
   HCO3.FRACTION       O          [NUMB 6,4]      BICARBONATE ANION MASS FRACTION            Bicarbonate mg fraction
   HCO3.MEQ/L          O          [NUMB 9,2]      BICARBONATE ANION CONCENTRATION            Bicarbonate, milli-equivalent
   SO4.MG/L            O          [NUMB 9,2]      SULPHATE ANION                             Sulphate mg/l
   SO4.FRACTION        O          [NUMB 6,4]      SULPHATE ANION MASS FRACTION               Sulphate mg fraction
   SO4.MEQ/L           O          [NUMB 9,2]      SULPHATE ANION CONCENTRATION               Sulphate, milli-equivalent
   CO3.MG/L            O          [NUMB 9,2]      CARBONATE ANION                            Carbonate mg/l
   CO3.FRACTION        O          [NUMB 6,4]      CARBONATE ANION MASS FRACTION              Carbonate mg fraction
   CO3.MEQ/L           O          [NUMB 9,2]      CARBONATE ANION CONCENTRATION              Carbonate, milli-equivalent
   OH.MG/L             O          [NUMB 9,2]      HYDROXIDE ANION                            Hydroxide mg/l
   OH.FRACTION         O          [NUMB 6,4]      HYDROXIDE ANION MASS FRACTION              Hydroxide mg fraction
   OH.MEQ/L            O          [NUMB 9,2]      HYDROXIDE ANION CONCENTRATION              Hydroxide, milli-equivalent
   H2S.MG/L            O          [NUMB 9,2]      HYDROGEN SULPHIDE ANION                    H2S mg/l (often qualitative)
   H2S.FRACTION        O          [NUMB 6,4]      HYDROGEN SULPHIDE ANION MASS FRACTION      H2S mg fraction (usually qualitative)
   H2S.MEQ/L           O          [NUMB 9,2]      HYDROGEN SULPHIDE ANION CONCENTRATION      H2S, milli-equivalent
```

```
~ SOLIDS
# MNEM.UNIT         MANDATORY          DEFINITION         DESCRIPTION                                  EXPLANATION
# ----------------- -----------------  -----------------  ----------------------                       ----------------------
  DS110.MG/L            O              [NUMB 6,1]         TOTAL SOLIDS EVAPORATED @ 110 DEGC           mg/l
  DS180.MG/L            O              [NUMB 6,1]         TOTAL SOLIDS EVAPORATED @ 180 DEGC           mg/l
  DSING.MG/L            O              [NUMB 6,1]         TOTAL SOLIDS AT IGNITION                     mg/l
  DSCAL.MG/L            O              [NUMB 6,1]         TOTAL SOLIDS CALCULATED                      mg/l
  RDEN.                 O              [NUMB 4,3]         RELATIVE DENSITY                             Relative density
  RDTMP.DEGC            O              [NUMB 5,2]         RELATIVE DENSITY TEMPERATURE DEGC            Temperature whereby relative density measured, Degrees Celsius
  RFIDX.                O              [NUMB 5,2]         REFRACTIVE INDEX                             Refractive index
  RFTMP.DEGC            O              [NUMB 5,2]         REFRACTIVE INDEX TEMPERATURE DEGC            Temperature whereby refractive index measured, Degrees Celsius
  PHOBS.                O              [NUMB 4,1]         OBSERVED PH                                  Observed pH
  PHTMP.DEGC            O              [NUMB 5,2]         OBSERVED PH TEMPERATURE                      Temperature whereby pH observed, Degrees Celsius
  PEOHM.                O              [NUMB 7,2]         RESISTIVITY                                  Resistivity Ohm-Meters
  PETMP.DEGC            O              [NUMB 5,2]         RESISTIVITY TEMPERATURE                      Temperature whereby resistivity measured, Degrees Celsius
  SALT.%                O              [NUMB 5,2]         SALINITY TOTAL PERCENTAGE
  GCOM.                 O              [CHAR 240]         GENERAL COMMENT                              Free form general comment
```

16.0 SYSTEMS

We continue to experience problems with Outlook Express and Outlook 98, and their inability to send encrypted e-mail for PAS file submission. In some cases it is possible to send e-mail using Outlook 98, but the EUB has had limited success. We are reviewing different ways to get Outlook e-mail to be Internet Standard compliant. In the meantime, Netscape Communicator is currently the only product that can consistently send signed and encrypted e-mail successfully, for PAS files. We apologize for this inconvenience, and will publish any changes in this regard.

16.1 System Requirements

Netscape Communicator has proven secure e-mail capability with the EUB's E-Commerce server and is available for free (home.netscape.com). Communicator requires a 486 processor (Pentium recommended) with 16 MB-ram and 25 MB disk space.

- We are testing other e-mail applications that provide secure e-mail capability. Please contact us to discuss your specific environment.

- Before you send your first test file, you need to make a small change on your computer to recognize the .PAS file extension as a specific MIME type. We will be using this specific MIME type to control "who" is authorized to send "what" information to the EUB.

  To make the change for Windows '95/NT go to Explorer. In the View menu go to Options. Go to the File Types tab and hit the New Type button. The New File Type should be created with the following information:

Description of type:	Pressure ASCII Standard
Associated extension:	pas
Content Type (MIME):	text/pas

- Use a file compression utility such as WinZip® or PkZip®

- We strongly recommend Windows '95 or NT as the operating system for your e-mail "client" application.

16.2 Security Requirements

The need for strict security measures is becoming more evident as more companies are signing up to submit data. A number of anomalies are occurring, which all must be investigated by the EUB. These anomalies range from including data other than PAS format or TIFF file in a submission, to e-mail messages sent from unauthorized persons.

- Only a specific e-mail ID is permitted to submit files to the EUB. We will set up only one e-mail ID per company based on the approved Client Registration Form.

Your e-mail application requires the ability to import a digital ID from a Certificate Authority such as Verisign (www.verisign.com) to digitally sign and encrypt your submissions to the EUB.

A Class 1 digital ID from a Certificate Authority, such as Verisign, is required prior to approval of your Client Registration. The Class 1 digital ID is available for $9.95 US per year.

The digital ID is required to "digitally sign" your submissions to the EUB. You will require the EUB's digital ID to "encrypt" the messages to the EUB. You can find your digital IDs at

https://digitalid.verisign.com/services/client/index.htm

> In the search box for "Search by Name" enter our *testing and certification* ID "wtc-certify" (without quotes). When you find our digital ID, click on it to proceed to the download screen. Select the appropriate digital ID type for your e-mail package and download. Follow the procedures for your e-mail package to import the digital ID. Repeat these steps to obtain our *production submission* ID "wtc-submit".

16.3 Suspected Breach of Security

IMPORTANT:

The EUB maintains the right to terminate communications if a breach of security is suspected. This termination will be immediate and without notice. Termination will remain in effect until such time as the problem is resolved.

In view of the sensitivity of data, and the importance of our databases, the EUB believes it is very important that we maintain the right to terminate communications if a breach of security is suspected. We realize this termination is inconvenient for the client, but is considered a necessary measure to protect the EUB databases, and especially the confidentiality of the data.

Situations that would cause termination would be identified by:

- A file audit indicating data or a file which was non PAS related
- Security of digital ID's not being maintained

The authorized trading partners are required to ensure the security of their certificate is maintained within their own organization. However, in the absence of a reliable method of monitoring the internal processes of our trading partners, whenever a breach of security is suspected, the EUB will terminate communications immediately, without notice. We regret any inconvenience caused by termination, but feel the protection is necessary. Communications will resume with the terminated client, once the problem has been investigated and is resolved to the EUB's satisfaction.

16.4 Setting Up And Testing E-Mail Communications

- Complete and submit the Client Registration Form for your company. The application is available from our website:

  http://www/eub/gov/ab/ca/bbs/dds/welltest/welltest.htm

- Please obtain the digital certificate prior to registering.

- Please forward the Client Registration Form as indicated on the form.

- Once your application has been approved, we will contact you to test communications with our *test and certification ID*. When testing has been successfully completed with your digital ID, we will implement your trading relationship with our *production submission* ID if you are a producing company. For service companies and consultants, please send a note to:

  ecommerce-help@mail-ecx1.eub.gov.ab.ca

  and we will provide instructions.

- In determining who should set up e-mail communications with the EUB for submitting well tests, it is important to note that anyone wanting to use the EUB's edit process to test file formats must be registered.

  When submitting data, the operator is ultimately responsible for fulfilling all requirements, although it is certainly acceptable to have a Service Company (or Lab) submit the file for you. However, any messages from the EUB server will always be sent to the submitter of the test. You may want your Service Company or Consultant to provide you with a certified PAS file, which you can submit to ensure the EUB will accept the file. Another option is to have the Service Company or the Consultant submit the test for you, and provide you with a copy of the message indicating the file was certified and accepted by the EUB.

16.4.1 Security Application Form

In completing the application form for the digital ID, the user first and last name can be either the company name or the contact's name. However, it is easier to find a digital ID for a company name than it is to find an ID based on a person (who you do not know) at that organization.

The key length relates to the length of the security algorithm used to encrypt messages. Most e-mail applications with security capability default to 40 which is the minimum and the current default the EUB will accept. You can upgrade your e-mail application to 128 bit and we will be supporting this capability. The other choices relate to the possibility of your having secure e-commerce capability where we have a greater range of choices.

16.5 Getting the PAS File Ready

- All PAS file submitted to the EUB must have the .PAS extension on the filename. The actual filename can be anything you choose subject to the restrictions of your operating system.

- The EUB has prepared sample Excel templates for each test type to help you get started. Please note the EUB does not provide support for the templates. However, if you decide to use the templates, keep the following in mind:

  1. Once you have completed and saved your Excel worksheet you need to save your worksheet as a Comma Separated Value (CSV) file type. Unfortunately, Excel creates extraneous commas (and sometimes other characters) which will cause our certify program to fail your file. You need to use a file editor such as Windows Notepad to "cleanup" the file.

  2. Excel will not maintain the formatting of fields with required decimal places if the decimal place is ".0". For example, the Version of the PAS type must bed "2.0". However, when you create the CSV file Excel will save the value of "2". This item will fail the certify program. The formatting can be corrected by entering the value in Excel with a leading single apostrophe ('2.0). Another fix for this problem is formatting the input cells (column C) to text. It will save whatever is input.

3. Be cautious when you reuse your file for a different test. You may have entered "defaults" to save re-entry. However, if you input a new test the "defaults" may no longer apply.

4. The final step is to rename your CSV file with a .PAS extension.

5. Where shareware has been identified that will enhance this process, it will be identified on the EUB website.

- **Comment lines** can be added at any place, in any format, by starting a line with the pound sign (#). Be careful not to use this sign for other purposes.

- **The use of commas** must be limited to comment lines only (starting with #). This is a "comma separated value" file, and the use of commas for other purposes will be interpreted as a field break and will cause a certification error.

- **Unknown values** are indicated by null or by having nothing between the two comma delimiters. All fields and rows must be present in the PAS file even if there is no data. **Do not** make up values, or input maximum values if they are meaningless. This only skews the results for programs using the data.

- **File names** with a .PAS extension are required for all PAS files submitted to the EUB. Please do not include spaces in the file name. Use the body of the message to keep your PAS file records organized. The "submission body" of the reply message relays the text entered by the submitter from inside the message body of the originating e-mail.

- **Set-up:** Currently, Outlook Express and Outlook 98 are not reliable for sending encrypted e-mail for PAS file submission. Netscape Communicator is currently the only product that can successfully send signed and encrypted e-mail for PAS files. We apologize for this inconvenience, and will publish any changes in this regard.

- **Unknown information** submitted anywhere in a file (ie. some new category or data of any kind), will result in the file being rejected.

16.6 Getting the TIFF File Ready

IMPORTANT:

TIFF files must contain only images pertinent to the well test. Any submissions containing unrelated images may jeopardize communications link with the EUB. Remember – the EUB makes this data available to the public, and is responsible for data integrity.

- All TIFF files (with the .TIF file extension) submitted to the EUB must use the compression format "CCIT Group 4 Fax". This compression format is available with current imaging software provided with scanners.

- Please submit one multi-page TIFF file for each PAS file.

Although there are a wide variety of scanners available on the market, you can readily create an acceptable file using the software "Imaging" for Windows '95 – developed for Microsoft by WANG by following the steps below. This software is available with the latest versions of Windows '95.

1. Ensure the necessary scanner drivers exist on your PC. You do not need to load scanner software if you have the software imaging for Windows '95 – developed for Microsoft by WANG.

2. While running "Imaging" hit the Scan New button. The scanning drivers will start automatically (this will be different for your PC depending on the scanner you are using – if you need to upgrade drivers, they should be available from the manufacturer's web site. If there is a cost at all, it should be negligible – you do not need to buy the whole software package again).

3. In the Scanning Driver software, set the resolution to 150 dpi, which is about half of a fax machine/low end printer. You should always scan at half the resolution of the probable output device.

4. When the scan is complete, the scanning driver software should disappear and Imaging will return. From the menu, select Page, Convert and chose the Compression tab. Under compression choose CCITT Group 4 (2d) Fax and then save the document. (You can also set this compression as the default and skip this step entirely).

5. You will get a wide variety of file sizes for the individual pages you scan (from 6K for presentation slides to 97K for a screen shot with intense graphics).

6. After scanning the individual pages and creating individual pages you can append them together into a new file. Again with the "Imaging" software, from the menu select Page, Append, and Existing Page.

- It is also possible to "print" your files directly to a TIFF file format without using a scanner. More information is available on the EUB website.

16.6.1 TIFF File General Information

- Do not submit redundant data (PAS and TIFF) for the same information. The purpose of the TIFF submission is to provide additional information about the test. This additional information will be extremely useful to the EUB and all users of the data.

- Please submit one multi-page TIFF file for each PAS file, as defined under each PAS section. The EUB will not permit more than one TIFF file per submission. Imaging for Windows '95 can be used to concatenate several TIFFs into one file. It is available for free with later versions of Windows '95. More information is available on the EUB website.

16.7 Submitting Your File(s)

- Only one PAS file and one TIFF file are permitted per e-mail submission. It is strongly recommended that you always package these TIFF files together through a file compression utility such as WinZip and attach only one file to your e-mail submission. Do not forward the file from another sender to the EUB – the submission must be an original submission.

- An e-mail address is available for testing and for on-going use if you want to see if your file is ready for production submission:

wtc-certify@mail-ecx1.eub.gov.ab.ca

- The e-mail address to submit your file to meet submission requirements is:

wtc-submit@mail-ecx1.eub.gov.ab.ca

16.7.1 "Received" Response from E-Commerce Server

Two e-mail notes will be sent to you from our E-commerce server. The first note is an acknowledgement that the EUB has received an e-mail message from you. The edit report is a two-stage process. The first stage certifies the correct format of your file submission and the second stage validates key values. This means that your first file submission may fail certification. After you correct it and the file passes certification, it may still fail validation. For each file submission, you will be e-mailed only one edit report.

Besides the certification requirements for each type of PAS file, the critical elements are unique well identifier, license number, spud date, status date, and valid top and base depths. The critical edits for each PAS format are listed in detail under that section of this guide.

Upon receipt of the PAS file at the EUB WTC server, the submitter will receive this message, with the sender's e-mail address appearing in the header.

EXAMPLE of "Initial Response" from EUB to "Received" PAS-File submission

- This note will be sent to the "submitter" of the PAS-File, upon it being received by the EUB WTC server.
- Note: The senders email address will appear in the header.
- Note: This return message is a direct response from the "address" to which the "sender" made submission (from). Therefore any submissions sent to "wtc-certify", once ready must be sent to "wtc-submit".

```
Subject:  Re: LS 00/16-36/0 (Aug 24/98 SG)
   Date:  Fri, 9 Oct 1998 09:30:27 -0600
   From:  wtc-submit@mail-ecx1.eub.gov.ab.ca
     To:  Senders Email address

Thank you for your PAS file submission.

You will shortly receive an e-mail note containing the result of the PAS file
edit.

If you do not receive a response within 24 hours, please forward this note to
'ecommerce-help@mail-ecx1.eub.gov.ab.ca'.  We will verify your account
information and which files you are permitted to submit to the EUB

PLEASE NOTE: ONLY e-mail attachments will be processed.  DO NOT include
comments or questions inside your note as the e-mail note is automatically
discarded on receipt.  Forward your questions or comments to 'ecommerce-
help@mail-ecx1.eub.gov.ab.ca'
```

The above is an "auto-reply" note from our messenger server. It will be sent to the originator of the PAS file submission with the same Subject as the originating note. Hint: If you send in many files to the EUB, set up a mail filter in your e-mail application to delete the "auto-reply" option.

16.7.2 "Certified" Response from E-Commerce Server

The second note will be an edit report of your PAS file. The edit report is a two-stage process. The first stage certifies the correct format of your file submission and the second stage validates key values. This means that your first file submission may fail certification. After you correct it and the file passes certification, it may still fail validation. For each file submission, you will be e-mailed only one edit report.

Besides the certification requirements for each type of PAS file. the critical elements are unique well identifier. license number, spud date, status date, and valid top and base depths. The critical edits for each PAS format are listed in detail under that section of this guide.

Upon receipt of the PAS file at the EUB WTC server, the submitter will receive this message, with the sender's e-mail address appearing in the header.

EXAMPLE of "Certification Reply" from EUB to PAS-File submission

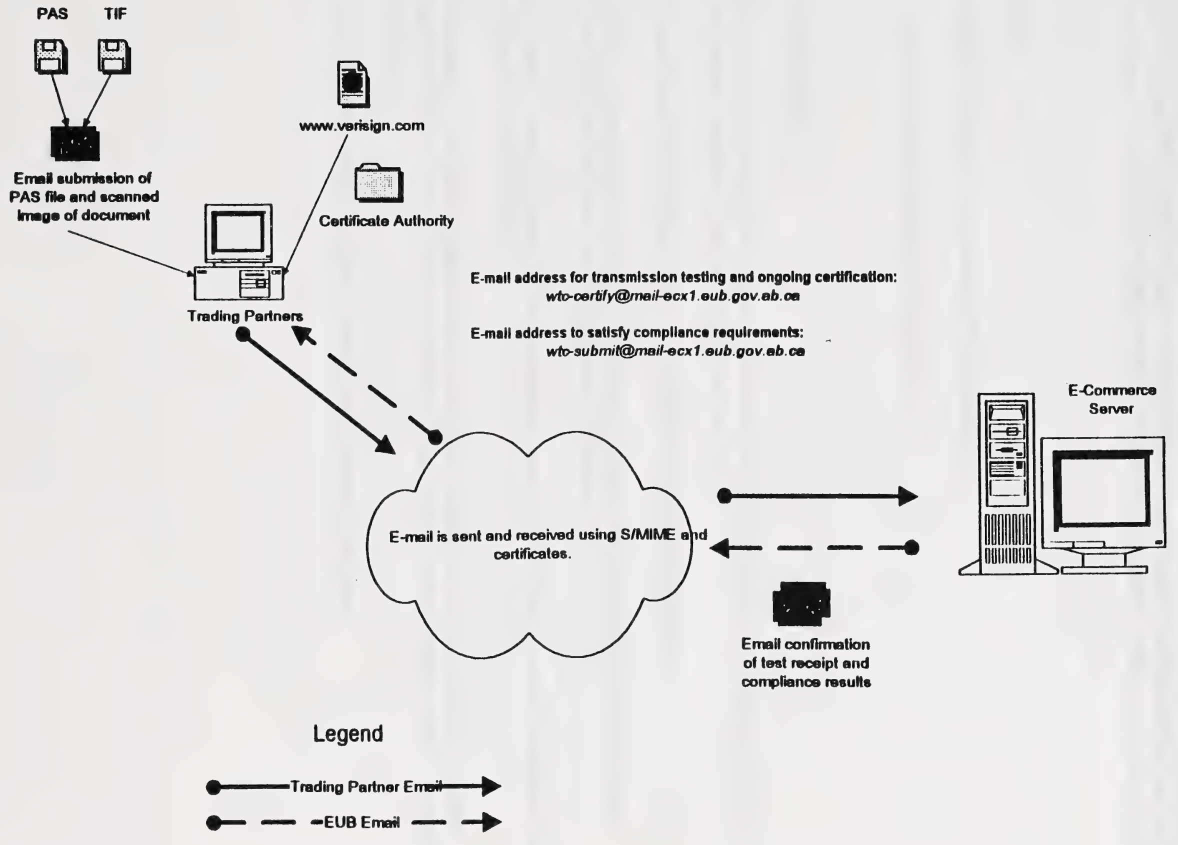
- **"Submission Body"** relays the text entered by the submitter from inside the message body of the Email. The individual (sender/submitter) can use this for "tracking purposes" - *Freehand Text
- **"Submission Results"** relays the specific information from inside the PAS-File, as well as the date and time the data was processed by the EUB server.
- **"Submission Results"** also specifies the general errors and locations (if any) within PAS-File. Except for data inside the raw data tables (to which current systems are unable to clearly indicate location of error).
- Note: The return message is a direct response from the "address" to which the "sender" made submission (from). Therefore any submissions sent to "wtc-certify", once ready must be sent to "wtc-submit".
- Note: Style of note may change over time, however basic premises will stand.

```
------ Submission Body ------

DEMO, submission for Guide 52 purposes...
This section used for "senders" notes...

i.e.  Well Name ET AL Knopcik
      100/01-02-003-04W5/0    Knopcik/Halfway Sand
      July 1st 1998, Static Gradient

------ Submission Results ------

Well Test Capture Submission              Processed on 1998-12-23 at 15:16

UWI: 100/01-02-003-04W5/0   Type: DST   Test Number: 1   Test Date: 1998 07 01

Mnemonic            Section                      Value                   Error
--------            -------                      -----                   -----

                  **** Submitted PAS File Certified Successfully ****

  === This submission can now be sent to WTC-SUBMIT for EUB acceptance ===

      === NOTE: 132-character wide response, for best results print

                         Landscape with minimal margins. ===
```

16.8 PAS File Submission Process

The following diagram illustrates the PAS file submission process.

PAS FILE SUBMISSION PROCESS



E-mail address for transmission testing and ongoing certification:
wtc-certify@mail-ecx1.eub.gov.ab.ca

E-mail address to satisfy compliance requirements:
wtc-submit@mail-ecx1.eub.gov.ab.ca

PAS
TIF
Email submission of PAS file and scanned image of document
www.verisign.com
Certificate Authority
Trading Partners
E-mail is sent and received using S/MIME and certificates.
E-Commerce Server
Email confirmation of test receipt and compliance results
Legend
Trading Partner Email
EUB Email

16.9 Correcting a Submitted PAS File

Any attempts to submit a corrected file, that was previously submitted, will be rejected in the duplicate file check. EUB systems will not allow storage of duplicate tests. Therefore, if a file has been submitted with incorrect information, notify Doug Giles at 297-4424 or Joanne Petryk at 297-8408 and have EUB records amended before you can submit the corrected file. The new file must then be submitted in its entirety. To protect the data submitted, EUB systems will not allow changes or deletions to files stored on the jukebox.

17.0 TROUBLE SHOOTING

For all messages, but especially for error messages, readability improves significantly with a change of the font used in your messages to "Courier". (It is not necessary to change the font in the PAS file itself). Use a font that is not a "true type font" to enhance your message as indicated below.

17.1 Help Line

A help line is available for questions and concerns. Please e-mail to:

ecommerce-help@mail-ecx1.eub.gov.ab.ca

17.2 Error Messages

Upon receipt of the PAS file at the EUB WTC server, the submitter will receive an error message, similar to the following, with the senders' e-mail address appearing in the header.

EXAMPLE of "Certification Reply" from EUB to an "ERRED" PAS-File submission

- "**Submission Body**" relays the text entered by the submitter from inside the message body of the Email. This can be used by the individual for tracking purposes. *Freehand Text..
- "**Submission Results**" relays the specific information from inside the PAS-File, as well as the date and time the data was processed by the EUB server.
- "**Submission Results**" also indicates general errors and specific mnemonic locations of errors wherever possible within PAS-File. Any error with a data table (raw data) can not be specifically located – only general column information
- Note: Style of note may change over time, however basic premises will stand.

```
------ Submission Body ------

This is an intentional erred test submitted 09/10/98.
LS 01-02-003-04W5



------ Submission Results ------

Well Test Capture Submission        Processed on 1998-10-09 at 13:43

UWI: 00/01-02-003-04w5/0      Type: SG     Test Date: 1998 05 23

Mnemonic          Section            Value                  Error
--------          -------            -----                  -----

UWI               WELL INFORMATION   00/01-02-003-04        Invalid
OHCI              WELL INFORMATION   M                      Invalid
PRPS              TEST DATA                                 Missing
SDGA              RESULTS SUMMARY    1431                   Invalid
Data Table Gaug   DATA TABLE GAUG                           Missing
```

17.2.1 Example of "Certification Reply" for a "Duplicate" PAS-File

The following is an example of a message received when a PAS file is submitted that already resides on our well test database. See section 5.6.2.2 of this guide for more information on duplicate files, and section 16.9 for correcting a file that was previously submitted.

EXAMPLE of "Certification Reply" from EUB to "DUPLICATE" PAS-File submission

- "**Submission Body**" relays the text entered by the submitter from inside the message body of the Email. This can be used by the individual for tracking purposes. *Freehand Text.
- "**Submission Results**" indicates that the file was rejected, due to duplicate transmission. Included is the assigned tracking identification number.

```
------------- Submission Body ------------



------------- Submission Results ---------

Tracking ID 10589 rejected - duplicate file
```

18.0 ACCESS OF ELECTRONIC DATA

Information Services will disseminate electronic well test data upon request.

18.1 To Order Electronic Data

There are a number of ways to access electronic raw data. Contact EUB Information Services Section by:

- A phone-in request (403) 297-8100. This phone line is open from 8:00 am to 4:30 pm Monday through Friday.
- A fax-in request (403) 297-7040. This line is available 24 hours. A fax request requires the information as listed below.
- E-mail orders are accepted on a 24-hour basis, at: infoe@mail.eub.gov.ab.ca.
- Order forms and catalogue can be accessed through the EUB website at: http://www.eub.gov.ab.ca.
- A mail-in order can be sent to: EUB, 640 – 5 Avenue SW, Calgary, AB T2P 3G4
- The walk-in counter service at the above address is open to the public 9:00 am to 3:00 pm daily, Monday through Friday.

To ensure prompt service to your order, you are required to include the following information with all orders:

- Contact person
- Company name
- Phone number
- EUB account or other method of payment (VISA, Mastercard, cheque or cash)
- Information required (ie well location and date of test, or area and test type)
- What media you prefer (ie diskette, CD ROM, e-mail, paper)
- How do you want to receive this information (e-mail, courier, pickup, mail, etc.)

APPENDIX A CODES FOR TEST TYPES AND SAMPLE GATHERING POINTS

[AOFTY]	PAS-AOF	01 - Single Point (simplified analysis) 02 - Multi-Point (simplified analysis) 03 - Theoretical (Lamier-Inertial-Turbulent. LIT) 04 - Incomplete (i.e. "field analysis", "failed attempt")
[TTYP]	PAS-AWS	10 - Acoustic/surface test - Single shot 11 - Acoustic/surface test - Buildup 12 - Acoustic/surface test - Falloff (these codes are to be used for all tests conducted from surface data, where the bottomhole pressure is calculated) Codes "01" and "02" previously included in this list have been eliminated as these codes were originally used in the old gas data base for any tests that were not measured by bottom hole gauge, including acoustics. At that time acoustic codes were not considered necessary as acoustic tests were rarely conducted on gas wells. With the development of the system for tests on oil wells, codes for acoustics were deemed necessary and added to the list. The EUB must maintain the surface codes (01 and 02) for historical tests on the database, but these codes will not be accepted for use with electronic submission.
[DSTTY]	PAS-DST	01 - Bottom Hole 02 - Straddle 07 - Closed Chamber (although closed chamber tests can also be bottom hole or straddle, please use code "07" to indicate all tests run under closed chamber conditions. This is necessary to determine the Mandatory/Optional elements in the closed chamber section.
[TTYP]	PAS-SG	03 - Bottom Hole Static Gradient
[TTYP]	PAS-TRG	04 - Bottom Hole Buildup 05 - Bottom Hole undefined (i.e. segregation, interference) 06 - Bottom Hole Falloff 08 - Pressure Sentry (permanent downhole recorders)

APPENDIX B CODES FOR SAMPLE GATHERING POINTS

(Gas Analysis Data):

10 - Recombination
20 - High Pressure Separator (>2000kpa)
30 - Wellhead
41 - Other (i.e. meter run, pressure tank, tubing, "Low Pressure Separator" <2000kpa)
50 - DST
61 - Other (submission of gas & condensate/hydrocarbon liquid analysis)

(Oil Analysis Data):

20 - High Pressure Separator (>2000kpa)
30 - Wellhead
41 - Other (i.e. meter run, pressure tank, tubing, "Low Pressure Separator" <2000kpa)
50 - DST

(Water Analysis Data):

20 - High Pressure Separator (>2000kpa)
30 - Wellhead
40 - Other (i.e. meter run, pressure tank, tubing, "Low Pressure Separator" <2000kpa)
50 - DST

APPENDIX C CODES FOR WELL STATUS

FLUID [WSFL]

01 - Crude Oil
02 - Gas
~~03 - Oil~~
~~04 - Gas/Water~~
05 - Undesignated
06 - Water
07 - Brine
08 - Waste
09 - Solvent
10 - Steam
11 - Air
~~12 - Synthetic Crude~~
13 - Carbon Dioxide
~~14 - Polymer~~
15 - Nitrogen
16 - Liquid Petroleum Gas
17 - Crude Bitumen
20 - Acid Gas

MODE [WSMO]

00 – Not Applicable *
01 - Suspended
02 - Abandoned
03 - Abandoned Zone
04 - Abandoned/Re-entered
05 - Capped
~~06 - Potential~~
07 – Standing (Drilled & Cased)
08 - Junked & Abandoned
~~09 - Closed (by Board Order)~~
10 - Flowing
11 - Pumping
12 - Gas Lift
~~13 - Testing~~
14 - Abandoned & Whipstocked

TYPE [WSTY]

00 – Not Applicable **
~~01 - Reproducer~~
02 - Storage
03 - Injection
04 - Disposal
05 - Observation
06 - Training
~~07 - Experimental~~
08 - Farm
09 - Industrial
10 - Cyclical
11 - Source
12 - SW Steam Assisted Gravity Drain

A number of codes have been deemed inappropriate for use in this purpose.

Do not use codes with ~~strikethrough~~

APPENDIX D CODES FOR SERVICE COMPANIES AND LABORATORIES

ABERF	Aberford Resources Ltd
ACANT	Acanthus Resources Ltd.
ACCU	ACCU-Rate
ACORN	Acorn Energy Ltd.
ADAMS	Adams Pearson Associates Inc.
AEC	AEC Oil & Gas Company
AECET	AEC East
AECWT	AEC West Ltd.
AGIP	AGIP Petroleum
ARGEN	Airgen Corporation
AENGY	Alberta Energy Company Ltd.
AMSL	Alberta Measurement Services Limited
AROSE	Alberta Rose Pressures Ltd.
ASST	Alberta Sub Surface Tools Inc.
AST	Alberta Sub Surface Tools Ltd.
ALEDO	Aledo Oil &Gas
ALORE	Allore Petroleum Management Ltd.
ALTAN	Altana Exploration Company
ALWST	All - West Wireline Services Ltd.
ASTL	Almech Sub Surface Tools Ltd.
ALPIN	Alpine Testers Ltd.
0GD2	Alpine Testers Ltd. (**DST** submissions only)
ALTAN	Altana Exploration Co.
ALTEX	Altex Resources Ltd.
AMBER	Amber Energy Inc.
HESS	Amerada Minerals Corp. of Canada Ltd.
AMOCO	Amoco Canada Petroleum Company Ltd.
ANAD	Anadarko Petroleum of Canada
AXL	Anderson Exploration Ltd. *(previously ANDER)*
ANDOG	Anderson Oil & Gas Inc.
APACH	Apache Canada Ltd.
APEX	Apex Energy Consultants Inc.
ARBOL	Arbol Energy Ltd.
ARCH	Archean Energy Ltd.
ATCO	Atco Gas Services Ltd.
ATLAN	AtlanticWirelines
ARL	Atlantis Resources
0HN1	Atlas Wireline (**DST** submissions only)
AVORD	Avord Oil & Gas Ltd.
BAILE	Bailie Inflate
0GD4	Bailie Inflate (**DST** submissions only)
BAIWT	Baile Wight Testers Ltd.
BAKER	Baker Oil Tools Canada
0GA9	Baker Oil Tools (**DST** submissions only)
BAKPR	Baker Production Services
BANER	Banner Consulting Services
BARNW	arnwell of Canada, Limited
BAYTX	Baytex Energy Ltd.
BEAU	Beau Canada Exploration Ltd.
BEVLK	Beaver Lake Resources Corporation
BEVOG	Beaver Oil & Gas Ltd.
BEVRR	Beaver River Resources Ltd.

BEVOG	Beaver Oil & Gas Ltd.
BEVRR	Beaver River Resources Ltd.
BEBLO	Beblow Wireline Service Ltd.
BEFST	Belfast Petroleum Inc.
BERJA	Berja Meter & Controls Limited
BESTP	Best Pacific Resources Ltd.
BEAR	Bear Wireline Services
TABS	Bews Wireline *(previously BEWS)*
BHPET	BHP Petroleum (Canada) Inc.
BIRCH	Birchill Resources Limited
BORG	BJ Borg Warner
BGOG	Black Gold Oil & Gas Ltd
BLIZE	Blize Wireline Ltd.
BLUER	Blue Range Resource Corporation
BLUES	Bluesky Oil & Gas Ltd. *(previously BLUE)*
BMILL	Bob Miller Oil Services Ltd.
BWS	Bonnett's Wireline Service
BVI	Bow Valley Industries
BRIDG	Bridges Energy Resources Ltd.
BRINK	Brinkerhoff Resources Inc.
BUMP	Bumper Development Corporation Ltd.
BURCH	Burch Wireline Services
BXL	BXL Energy Ltd.
CABRE	Cabre Exploration Ltd.
CALHO	Calahoo Petroleum
CSCAN	Cal-Scan Services Ltd.
CALIP	Caliph Wireline Service Inc.
CAM	Camberly Energy Ltd.
CANTC	Canada Tech Ltd.
CANWW	Can West Wireline Service Ltd.
CAN88	Canadian 88 Energy Corp.
CCONQ	Canadian Conquest Exploration Inc.
CFORM	Canadian Formation Testers
0GC7	Canadian Formation Testers (**DST** submissions only)
CFRAC	Canadian Fracmaster
CHUNT	Canadian Hunter Exploration Ltd. *(previously CDHEL)*
CHYDR	Canadian Hydrodynamics Ltd.
JOREX	Canadian Jorex Ltd.
CNRL	Canadian Natural Resources Limited
CNEL	Canadian North West Energy Ltd.
CDOXY	Canadian Occidental Petroleum Ltd.
CPCL	Canadian Petroleum Company
ROXY	Canadian Roxy Petroleum Ltd.
CSS	Canadian Sub-Surface Wireline & Production Services
CSUP	Canadian Superior *(previously CS)*
CWNG	Canadian Western Natural Gas Company
CDNWL	Canadian Wireline Services Ltd. *[now (Heat)]*
CANOR	Canor Energy Ltd.
CRISE	Canrise Resources Ltd.
CANT	Canterra Energy Ltd.
CPENG	Capital Engineering Ltd.
CARL	Carlyle Energy Ltd.

CARN	Carnwood Wireline Service
CELAN	Celanese Canada Inc.
CELUS	Celsius Energy Resources Ltd.
CEXP	Central Explorers Inc.
CENWL	Central Wireline Services Ltd.
CWS	Challenger Wireline Service Ltd. *(previously CHALL)*
CHAMB	Chambers Engineering Ltd.
CHMPL	Champlin Petroleum Ltd.
CHAP	Chapman Petroleum Engineering Ltd.
CHASE	Chase Manufacturing
CHAUV	Chauvco Resources Ltd.
CHECK	Checkmate Wireline Service
CWASH	Chem-Wash Industries (1978) Ltd.
CHEV	Chevron Canada Resources Ltd.
CHIEF	Chieftan Development Co. Ltd.
CIMAR	Cimarron Engineering Ltd. *(previously CIM)*
CMH	City of Medicine Hat
CLAUD	Claude-Beau Resources Ltd.
CBEAU	Claude-Beau Petroleum Ltd.
COACH	Coachwood Resources Ltd. *(previously CRL)*
COAST	Coastal Resources Limited
COMM	Commonwealth Drilling Co. Ltd.
COMPW	Competition Wireline Services Ltd.
COMGL	Computalog Gearhart Ltd.
0FZ8	Computalog (**DST** submissions only)
COMPT	Computest Oilfield Services Inc.
CON	Conoco Canada Ltd.
CNORX	Consolidated Norex *(previously CN)*
COPRX	Coparex Canada Ltd.
COREX	Corexcana Ltd.
CORVR	Corvair Oils Ltd.
COSEK	Coseka Resources Ltd.
COT	Cotton Petroleum Corp.
CRES	Crescendo Oil & Gas
CRSTR	Crestar Energy
CYPRS	Cypress Energy Inc.
CZAR	Czar Resources Ltd.
NALLY	D. McNally Oil Tool Ltd.
DALER	Daler Pressure Services Ltd.
0GJ4	Danes Testing
DTLOG	Data Logger Inc.
DKLB	Dekalb Petroleum Corp.
DELTP	Delta P. Test Corp.
DELTX	Delta X Canada Ltd.
DEMNX	Deminex (Canada) Ltd.
DEVN	Devnic Res. Ltd.
DEVON	Devon Energy Canada Corporation
DEI	Diagnostic Engineering Ltd.
DSI	Diagnostic Services, Inc./ DSI - Core Laboratories
DIXON	Dixon Wireline Services
DOME	Dome Petroleum Ltd. *[now (Amoco Canada)]*
DOCSR	Doc Services Ltd.
DSTC	Downhole Systems Technology Canada Inc.
0NM2	Downhole Systems Technology (**DST** submissions only)
0FZ3	Dresser Atlas
DRILL	Drill Stem Testers Ltd.

0FZ3	Dresser Atlas
DRILL	Drill Stem Testers Ltd.
DURA	Dura Energy Inc.
DYDRL	Dy-Drill Ltd.
DYNA	DYNA Well Test Ltd.
0MJ5	Dynamic Drillstem Testing Services
EKYLE	E.S. Kyle Instruments Ltd.
EAGLE	Eagle Resources Ltd.
ETL	Eastland Testers Ltd. *(previously EAST)*
EBOC	EBOC Energy Ltd.
ELAN	Elan Energy
ELITE	Elite Petroleum Consulting Ltd.
ELKPT	Elk Point Resources Inc.
ENCAL	Encal Energy Ltd.
ENRPL	Enerplus Resources Corporation
ENRON	Enron Oil Canada Ltd.
ENTST	Entest Corp.
ERS	Erskine Resources Ltd. *(previously ERSK)*
ESSO	Esso Resources Canada Ltd.
EXCEL	Excel Pressure Testing Inc.
FAI	FAI Well Services Ltd.
FARR	Farries Engineering (1977) Ltd. *(previously FARIS)*
FISHW	Fish Wireline Services *(previously FWS)*
FLEC	Fletcher Challenge Energy Canada Inc.
FLINT	Flint Engineering & Construction
FOOTW	Foothills Wireline Ltd.
FOR	Forest Oil Corp
FREE	Freedom Wireline Services
GCAN	Gascan Resources Ltd.
GENCO	Genco Pressure Control Ltd. *(previously GPCL)*
GENAM	General American Oil Ltd.
GENAT	General Atlantic Oils Ltd. *(previously GEN)*
GENIS	Genesis Exploration Ltd.
GJS	GJS Resources Ltd.
GENT	Gentronics Alberta District
GEOLG	geoLOGIC Systems Ltd.
GEOPH	Geophysical Research Corp. Ltd.
GEOSR	Geo Services Inc.
GEXRS	GEX Resources Ltd.
GILMC	Gilmac Pressure Ltd.
GLENP	Glen Garry Pressure Controls Ltd.
GLEN	Glen Isle Exploration Ltd.
GUARD	Guard Resources Ltd.
GULF	Gulf Canada Resources Limited
HAI	Haidey & Associates Inc.
HALL	Halliburton Services Limited
0GD3	Halliburton Services (**DST submissions only**)
HALVR	Halvar Resources Ltd.
HANEY	Haney Testers Ltd.
0GC9	Haney Testers Ltd. (**DST submissions only**)
HAR	Harbour Petroleum Ltd.
HARBR	Harbour Petroleum Company Limited
HART	Hart - Tech Oilwell Optimization Ltd.
HARVE	Harvie Instruments Ltd.
HAWKS	Hawkes Down Hole Services Ltd.
HAZEN	Hazenco Technologies Inc.

HIGHW	Highwood Resources Ltd.
HOME	Home Oil Company Limited
HUBER	Huber Testing Ltd
0GJ2	Huber Testing Ltd. (DST submissions only)
HUSKY	Husky Oil Operations Ltd.
HYCAL	Hycal Energy Research Laboratories Ltd.
HYTST	Hydrotestors Canada Limited
HYFAX	Hydro-Fax Resources Ltd.
ICG	ICG Resources Ltd.
ICONE	Icon Energy Limited
ICON	Icon Engineering Inc.
ILITE	ILI Technologies Corp.
IMP	Imperial Oil Resources Limited
INN	Innovare Technologies Inc. *(previously INNOV)*
IWD	Integrated Well Diagnostics Ltd.
IPC	Inuvialuit Petroleum Ltd.
INVER	Inverness Petroleum Ltd.
ISH	ISH Energy Ltd.
JACKT	Jack's Testers Ltd.
HUBER	J.M. Huber Corporation
JOHNT	Johnson Testers *(previously JOHN)*
JORD	Jordan Petroleum Ltd.
KADE	Kade Technologies Inc.
KAISR	Kaiser Energy Ltd.
KANEB	Kaneb Energy Canada Ltd.
KERR	Kerr McGee Corporation
KERWT	Ker West Production Testing Ltd.
KINGF	Kingfisher Wireline Ltd.
KMK	KMK Wireline Services
KNTW	Knight Testing & Wireline Ltd.
KOCH	Koch Exploration Canada Ltd.
KDIAK	Kodiak Wirleine Services Ltd.
LABAT	Labattes Oilfield Services
LADD	Ladd Exploration Company
LAA	Laird, Anderson and Associates Ltd. *(previously Laird Engineering Ltd.)*
LAMB	Lambertus Enterprises Ltd.
LHAWK	Landhawk Petroleum Corporation
LEEMA	Lee-Mason Tools Ltd.
LEE	Lee Tool Service
LEMAY	Lemay Holdings
LION	Lionhead Engineering and Consulting Ltd.
0GJ5	Lloyds Testing
LONK	Lonkar Services Ltd.
LUSC	Luscar Ltd.
LYLE	Lyleton Services Ltd.
LYNES	Lynes United
0GC1	Lynes United (DST submissions only)
MAGIN	Magin Energy Inc.
MIPC	Marathon International Petroleum Canada, Ltd.
MARK	Mark Resources Ltd.
MASON	Mason Tools Ltd.
MAXUS	Maxus Energy Ltd.
MAXXP	Maxx Petroleum Ltd.
MAXWL	Max-Well Inc. Survey Co.
MCAL	McAllister Instrumentation Ltd.
0GC6	McAllister (DST submissions only)

MAXXP	Maxx Petroleum Ltd.
MAXWL	Max-Well Inc. Survey Co.
MCAL	McAllister Instrumentation Ltd.
0GC6	McAllister (**DST** submissions only)
MCAFF	McCaffery Consulting Services
MCDAN	McDanial Closed Chamber
MERIT	Merit Energy Ltd.
MERL	Merland Exploration Limited
MEUSE	Meuse Engineering Petroleum Consulting
MEYER	Meyer Technical Services
0GJ1	Meyer Technical Services (**DST** submissions only)
MRL	Mission Resources Limited
MJB	MJB Wireline Services Ltd.
MOBIL	Mobil Oil Canada
MORPD	Moraine Production Co. Ltd.
MORR	Morr - Mac Ltd.
MUR	Murphy Oil Company Ltd.
NAFT	Naft Canada Resources Ltd.
NELMC	Nelson & McCaffery *(Historical Data)*
PTA+	Nelson & McCaffery *(Current Data)*
NCASH	New Cache Petroleums Ltd.
NYOL	New York Oil Limited
NOBEN	Noble Engineering Ltd.
NOBIN	Noble Instrument Service Limited
NORC	Norcen Energy Resources Ltd.
NCO	North Canadian Oil Limited
NWS	Northland Wireline Services Ltd.
NEL	North Ridge Exploration Ltd.
NROCK	Northrock Resources Ltd.
NSTAR	Northstar Energy Corportion
0GC8	Northstar Drillstem Testers
NORWD	Norward Energy Services Corp.
NORW	Norwich Resources Canada Ltd.
NSM	NSM Resources
NUMAC	Numac Energy
OAK	Oakwood Petroleum Ltd.
OCE	Ocelot Industries Ltd.
OCELT	Ocelot Energy Inc.
OGT	Oil & Gas Techno Service Ltd.
OPSCO	Oilwell Pressure Surveys *(previously OWPS)*
OWSL	Olsen Well Services Ltd.
OPAL	Opal Energy Inc.
OPIN	Opinac Exploration
OTACO	OTATCO Inc.
OTIS	Otis Pressure Control Inc.
PPL	Pacific Petroleum Ltd.
PCP	PanCanadian Petroleum Ltd. *(previously PAN)*
PC	Pancontinental Oil Limited
PRMNT	Paramount Resources Ltd.
PDQ	P.D.Q. Services Ltd.
PEMBR	Pembina Resources Limited *(previously PEM)*
PEMO	Pemoco Ltd.
PENNW	Penn West Petroleum Ltd. *(previously PEN)*
PENNZ	Pennzoil Petroleum Ltd. *(previously PENN)*
PERL	Pensionfund Energy Resources Limited
PETRO	Petro-Canada Inc.

PPRL	Phillips Petroleum Resources Ltd.
PTA+	PTA+ Reservoir Analysts Ltd (see NELMC)
PINNA	Pinnacle Resources Ltd.
PINON	Pinon Oil and Gas Ltd.
PNRC	Pioneer Natural Resources Canada Inc.
PIUTE	Piute Petroleums Limited
PCEGO	Placer Cego Petroleum *(previously PCP)*
PLAIN	Plains Energy Ltd.
PRTEC	Pretec Wireline & Production
POCO	Poco Petroleum Ltd.
POST	Post Energy Corporation
POR	Prairie Oil Royalties Company Ltd.
PPEC	Prairie Pacific Energy Corporation
PRIME	PrimeWest Energy Inc.
PROBE	Probe Exploration Inc.
QUAS	Quasar Petroleum Ltd.
QUINN	Quinn Testers Ltd.
0GC2	Quinn Testers Ltd. (**DST** submissions only)
QWELL	Quinn Well Control Limited
RNGER	Ranger Oil Limited
RANWL	Ran Wal Instruments Ltd.
RAPID	Rapid Wireline Services
RTM	RTM Inc. /Real Time Measurement Inc.
REDIN	Reding Instruments Services Limited
REMOT	Remote Wireline Services Ltd.
RENA	Renaissance Energy Ltd.
RIGEL	Rigel Oil & Gas Ltd.
RIOAL	Rio Alto Exploration Ltd.
ROCK	Rock Data Services Ltd.
RORY	Rory's Oilfield
ROSS	Ross Wireline Services Ltd.
RTEC	Royal Trust Energy Corp.
ROZSA	Rozsa Petroleum Ltd.
SABRE	Sabre Wireline Services
SALM	Salmon Wireline Services
SAM	Samedan Oil of Canada Inc.
SAMSN	Samson Canada Ltd.
SAXON	Saxon Petroleum Inc.
SCBR	Schlumberger Canada Ltd.
0GP3	Schlumberger Canada (**DST** submissions only)
0MO7	Schlumberger Canada (**RFT** submissions only)
SSI	Scientific Software-Intercomp
SCORR	Score Resources Ltd.
SCOTT	Scott Oilfield Services *[now (Heat)]*
0GC5	Scott Testers (**DST** submissions only)
SDA	SDA Technologies Ltd.
SERCH	Search Energy Corp.
SENCO	Senco Flow Control Ltd.
SERVI	Servipetrol Resources Ltd.
SHEDA	Sheda Oilfield Services
SHLD	Shield Wireline Ltd.
SHELL	Shell Canada Limited
SIG	Signalta Resources Limited
SBE	Silver Blaze Energy Ltd.
SPC	Silverline Pressure Controls Ltd.
SILV	Sliverton Resources Ltd.

SHLD	Shield Wireline Ltd.
SHELL	Shell Canada Limited
SIG	Signalta Resources Limited
SBE	Silver Blaze Energy Ltd.
SPC	Silverline Pressure Controls Ltd.
SILV	Sliverton Resources Ltd.
SPSL	Slickline Pressure Surveys Ltd.
SOLID	Solid Resources Limited
SWS	Solid Wireline Service
SONA	Sona Dyne
SPART	Spartek Systems
SS	Sperry Sun Drilling Services
STAR	Starburst Electronics Inc.
STROG	Star Oil & Gas Ltd.
STRTH	Startech Energy Inc.
STICA	Stica Wireline Ltd.
STOCK	Stocking Testers Ltd.
0GD5	Stocking Testers Ltd. (**DST** submissions only)
STNWL	Stoney's Wireline Ltd.
STORM	Storm Energy Inc.
STRAN	Strand Oil & Gas Ltd.
STRAT	Strata Wireline Services/Strata Hughes Testing
0GJ3	Strata Testers (**DST** submissions only)
SULP	Sulpetro Ltd.
SUM	Summit Resources Ltd.
SUNAD	Sunada Technology Corp.
SUNC	Suncor Energy Inc.
SUN	Sundance Oil Canada Ltd.
SUN	Sunray Dx Northern Oil Co. Ltd.
SURE	Sure Shot
SYNCD	Syncrude Canada Ltd.
TFEKE	T. Fekete Assoc. Inc.
TMNAL	T. McNally Oilfield Service
TAI	Tai Resources Ltd.
TALIS	Talisman Energy Inc.
TARGO	Targol Resources Ltd. *(previously TARG)*
TOGL	Tarragon Oil and Gas Limited
TDATA	Technical Data Services
TETHY	Tethys Energy Inc.
TEXEX	Texaco Canada Resources Ltd.
0GC3	Thomas Testers
THUDR	Thunder Energy Inc.
TOGL	Torino Oil & Gas Ltd.
TORCH	Torch Oil & Gas Company
TOTAL	Total Petroleum Ltd.
TPSI	Total Protection Services Inc. *(previously TOTAL)*
TRAF	Trafford
TCRL	Trans Canada Resources Ltd.
TABS	Tri-Alta BEWS Services (Tri-Alta/BEWS Wireline MERGER)
TABS	Tri-Alta Tool Ltd. *(previously TATL)*
TECH	TRI-ENER-TECH Petroleum Services Ltd.
TLINK	Tri Link Resources Ltd. *(previously LINK)*
TRIWS	Triotech Wireline Service *[now (Heat)]*
TRIPL	Tripet Resources Ltd.
TRIPH	Triumph Energy Corporation
TUSK	Tusk Energy Inc.

UNION	Union Pacific Resources Inc.
UNOCL	Unocal Canada Ltd. *(previously UNO)*
VALL	Vallet Wireline Services Ltd.
VERBA	Verbaan Testers Ltd.
0GD6	Verbaan Testers Ltd. (**DST submissions only**)
VRMIL	Vermilion Resources Ltd.
VIGRA	Vigrass Engineering
VIKOR	Vikor Resources Ltd.
VOY	Voyager Energy Co.
WELYN	W.E. Lyons Oil Well Service Ltd.
WASAN	Wascana Energy Inc.
WELL	Wellore Resources Ltd.
WENZL	Wenzel Downhole Tools Ltd.
WESCO	Wesco Wireline Service Ltd.
WESPR	Wespro Wireline Services
WESTB	Westburne Petroleum & Minerals Ltd.
WDRUM	Westdrum Energy Ltd.
WCST	Westcoast Petroleum Ltd.
WMIN	Westmin Petroleum Ltd.
WGTL	Westwat Goswell Testing Ltd.
WIGHT	(Bob) Wight Testers Inc.
0GD1	Wight Testers (Dynamic) (**DST submissions only**)
WIREP	Wireline Pressures Ltd.
WCATW	Wildcat Wireline Service
WILCO	Wilco Wireline Services
WSHAL	Wintershall Canada Ltd.
WOOD	Woodbend Oil & Gas Ltd.
XLAIR	XL Air Pressure Services Inc.
ZAMA	Zama Wireline
ZI	Z.I. Probes *(previously PROBE)*
ZENSL	Zentech Services Ltd.

AOF (spreadsheet) EXAMPLE

#			
# The definition [NUM X.Y] indicates that there are X digits to the left of the decimal			
# and Y digits to the right of the decimal (EG: [NUM 3.2] = 123.45)			
#			
~VERSION	TYPE.	PAS-AOF	DIGITAL DATA - ABSOLUTE OPEN FLOW TEST
~VERSION	UNIT.	M	UNITS FLAG
~VERSION	VERS.	2.1	CIM\EUB DIGITAL WELL TEST DATA
~WELL INFORMATION	COMP.	PALLISER ENERGY CORP.	[CHAR 60] [M] COMPANY NAME
~WELL INFORMATION	UWI.	100/15-15-048-08W4/2	[9XX/99-99-999-99W9/9] [M] UNIQUE WELL ID
~WELL INFORMATION	WLIC.	192571	[CHAR 9] [M] EUB WELL LICENSE NUMBER
~WELL INFORMATION	FORM.	COLONY	[CHAR 20] [M] FORMATION NAME
~WELL INFORMATION	WSFL.	2	[NUM 2] [M] WELL FLUID STATUS AT TEST DATE
~WELL INFORMATION	WSMO.	7	[NUM 2] [M] WELL MODE STATUS AT TEST DATE
~WELL INFORMATION	WSTY.	0	[NUM 2] [M] WELL TYPE STATUS AT TEST DATE
~WELL INFORMATION	WTYP.	D	[CHAR 1] [M] WELL TYPE INDICATOR
~WELL INFORMATION	WHDP.M	351.0	[NUM 5.5] [O] WHIPSTOCK DEPTH (TVD)
~WELL INFORMATION	HLID.MM	200.0	[NUM 3.1] [MO] HOLE DIAMETER
~WELL INFORMATION	OHCI.	N	[CHAR 1] [M] OPEN HOLE COMPLETION INDICATOR
~WELL INFORMATION	CSLD.M	750.9	[NUM 5.5] [MO] CASING LANDED AT DEPTH (TVD)
~WELL INFORMATION	LINR.	y	[CHAR 1] [MO] CASING LINER INDICATOR
~WELL INFORMATION	TULD.M		[NUM 5.5] [O] TUBING LANDED AT DEPTH (TVD)
~WELL INFORMATION	PCID.MM	114.3	[NUM 3.1] [O] PRODUCTION CASING INSIDE DIAMETER
~WELL INFORMATION	PTOD.MM		[NUM 3.1] [O] PRODUCTION TUBING OUTSIDE DIAMETER
~WELL INFORMATION	TUBS.MM		[NUM 3.1] [O] PRODUCTION TUBING INSIDE DIAMETER
~WELL INFORMATION	PKDT.M	619.1	[NUM 5.5] [O] PACKER SETTING DEPTH (TVD)
~WELL INFORMATION	AFLO.		[CHAR 1] [O] TUBING OR ANNULAR FLOW
# NOTE: DUE to timing and available electronic data -			
# Various "Optional" elements may be missing (WTC G-52 purpose only)			
# Whenever possible - please include as many of these as possible			
# to make the "raw data" and future independent interpretations more valuable			
~TEST DATA	PRPS.	Y	[CHAR 1] [M] TEST PURPOSE
~TEST DATA	AOFTY.	1	[NUM 2] [M] AOF TEST TYPE CODE
~TEST DATA	TTNC.	SINGLE POINT	[CHAR 20] [O] AOF TEST TYPE NAME
~TEST DATA	SERCO.	CSS	[CHAR 5] [M] SERVICE COMPANY CODE
~TEST DATA	TTOPL.M	614.0	[NUM 5.5] [M] TEST/PRODUCING INTERVAL TOP (LOG)
~TEST DATA	TBASL.M	614.5	[NUM 5.5] [M] TEST/PRODUCING INTERVAL BASE (LOG)

AOF (spreadsheet) EXAMPLE

~TEST DATA	TTOPT.M	610.93	[NUM 5.5] [M] TEST/PRODUCING INTERVAL TOP (TVD)
~TEST DATA	TBAST.M	611.43	[NUM 5.5] [M] TEST/PRODUCING INTERVAL BASE (TVD)
~TEST DATA	STRT.DAY/HR	1998 02 15 1000	[YYYY MM DD HHHH] [O] TEST START DATE/TIME
~TEST DATA	TISI.DAY/HR	1998 02 17 1200	[YYYY MM DD HHHH] [O] DATE/TIME WELL SHUT-IN
~TEST DATA	FTDT.DAY/HR	1998 02 23 0918	[YYYY MM DD HHHH] [M] TEST FINAL DATE/TIME
~TEST DATA	TSUR.DEGC	-4.5	[NUM 3.2] [O] SURFACE TEMPERATURE
~TEST DATA	TUPS.KPAA	2625.0	[NUM 6.2] [O] INITIAL TUBING PRESSURE
~TEST DATA	CSPS.KPAA	3440.0	[NUM 6.2] [O] INITIAL CASING PRESSURE
~TEST DATA	VGAS.E3M3	672.6	[NUM 9.4] [M] GAS PRODUCED IN CLEANUP/TEST
~TEST DATA	GPTO.	P	[CHAR 1] [M] METHOD OF TEST PRODUCTION
~TEST DATA	GPTH.	T	[CHAR 1] [M] DESCRIPTION OF GAS PRODUCTION
~TEST DATA	FDUR.HR	40.0	[NUM 5.5] [M] FLOW DURATION HOURS
~TEST DATA	QFGAS.E3M3/D	4.19	[NUM 9.4] [M] FINAL GAS PRODUCTION RATE
~TEST DATA	QFCON.M3/D		[NUM 9.4] [O] FINAL CONDENSATE PRODUCTION RATE
~TEST DATA	QRGAS.E3M3/D		[NUM 9.4] [O] RECOMBINED GAS PRODUCTION RATE
~TEST DATA	QFWTR.M3/D		[NUM 9.4] [O] FINAL WATER PRODUCTION RATE
~TEST DATA	GEQV.E3M3/D		[NUM 9.4] [O] GAS EQUIVALENT OF CONDENSATE
~TEST DATA	QDAT.DAY	1998 02 23	[YYYY MM DD] [M] DATE OF PRODUCTION RATES
~TEST DATA	TRES.DEGC	20.7	[NUM 3.2] [M] RESERVOIR TEMPERATURE
~TEST DATA	BLOW.HR		[NUM 5.5] [O] WELL BLOW DURATION
~TEST DATA	SPRAY.HR		[NUM 5.5] [O] TIME FOR SPRAY TO CLEAR
~TEST DATA	DOIL.KG/M3		[NUM 4.2] [O] OIL DENSITY
~RESULTS - SUMMARY	LIT.	N	[CHAR 1] [M] LIT ANALYSIS INDICATOR
~RESULTS - SUMMARY	QGST.E3M3/D	4.19	[NUM 9.4] [M] STABILIZED RATE
~RESULTS - SUMMARY	PAVG.KPAA	3830.0	[NUM 6.2] [M] AVERAGE RESERVOIR PRESSURE
~RESULTS - SUMMARY	PAVGC.	FLOW AND BU-SAME DATE	[CHAR 240] [O] COMMENT ON SOURCE OF PAVG ABOVE
~RESULTS - SUMMARY	PFSF.KPAA	3525.9	[NUM 6.2] [MO] STABILIZED FLOWING SANDFACE PRESSURE
~RESULTS - SUMMARY	METHC.	CULLENDER & SMITH	[CHAR 240] [MO] COMMENT RE SANDFACE PRESSURE
~RESULTS - SUMMARY	PFWH.KPAA	2545.0	[NUM 6.2] [MO] STABILIZED FLOWING WELLHEAD PRESSURE
~RESULTS - SUMMARY	AOFSF.E3M3/D	27.476	[NUM 9.4] [MO] STABILIZED SANDFACE AOF
~RESULTS - SUMMARY	NSF.	1.0	[NUM 1.2] [MO] INVERSE SLOPE AT SANDFACE
~RESULTS - SUMMARY	WPRE.KPAA	3645.0	[NUM 6.2] [O] STATIC WELLHEAD PRESSURE
~RESULTS - SUMMARY	AOFWH.E3M3/D	8.176	[NUM 9.4] [MO] STABILIZED WELLHEAD AOF
~RESULTS - SUMMARY	NWH.	1.0	[NUM 1.2] [MO] INVERSE SLOPE AT WELLHEAD
~RESULTS - SUMMARY	AOFC.	Depths corrected to TVD	[CHAR 50] [O] GENERAL COMMENTS ON AOF TEST

AWS (spreadsheet) EXAMPLE

#			
# The definition [NUM X.Y] indicates that there are X digits to the left of the decimal			
# and Y digits to the right of the decimal (EG: [NUM 3.2] = 123.45)			
#			
~VERSION	TYPE.	PAS-AWS	DIGITAL DATA - ACOUSTIC PRESSURE TEST
~VERSION	UNIT.	M	UNITS FLAG
~VERSION	VERS.	2.1	CIMEUB DIGITAL PRESSURE DATA
~WELL INFORMATION	COMP.	CRESTAR	[CHAR 60] [M] COMPANY NAME
~WELL INFORMATION	UWI.	100/08-17-016-21W4/2	[9XX/99-99-999-99W9/9] [M] UNIQUE WELL ID
~WELL INFORMATION	WLIC.	174675	[CHAR 9] [M] EUB WELL LICENSE NUMBER
~WELL INFORMATION	FORM.	GLAUCONITIC	[CHAR 20] [M] FORMATION NAME
~WELL INFORMATION	WSFL.	1	[NUM 2] [M] WELL FLUID STATUS AT TEST DATE
~WELL INFORMATION	WSMD.	12	[NUM 2] [M] WELL MODE STATUS AT TEST DATE
~WELL INFORMATION	WSTY.	1	[NUM 2] [M] WELL TYPE STATUS AT TEST DATE
~WELL INFORMATION	WTYP.	V	[CHAR 1] [M] WELL TYPE INDICATOR
~WELL INFORMATION	WHDP.M		[NUM 5.5] [O] WHIPSTOCK DEPTH (TVD)
~WELL INFORMATION	HLID.MM		[NUM 3.1] [MO] HOLE DIAMETER
~WELL INFORMATION	OHCI.	N	[CHAR 1] [M] OPEN HOLE COMPLETION INDICATOR
~WELL INFORMATION	CSLD.M		[NUM 5.5] [MO] CASING LANDED AT DEPTH (TVD)
~WELL INFORMATION	LINR.		[CHAR 1] [MO] CASING LINER INDICATOR
~WELL INFORMATION	TULD.M	1337.9	[NUM 5.5] [O] TUBING LANDED AT DEPTH (TVD)
~WELL INFORMATION	PCID.MM		[NUM 3.1] [O] PRODUCTION CASING INSIDE DIAMETER
~WELL INFORMATION	PTOD.MM	73.0	[NUM 3.1] [O] PRODUCTION TUBING OUTSIDE DIAMETER
~WELL INFORMATION	TUBS.MM		[NUM 3.1] [O] PRODUCTION TUBING INSIDE DIAMETER
~WELL INFORMATION	PKDT.M		[NUM 5.5] [O] PACKER SETTING DEPTH (TVD)
~WELL INFORMATION	AFLO.	T	[CHAR 1] [M] TUBING OR ANNULAR FLOW
# NOTE: DUE to timing and available electronic data -			
# Various "Optional" elements may be missing (WTC G-52 purpose only)			
# Whenever possible - please include as many of these as possible			
# to make the "raw data" and future independent interpretations more valuable			
~TEST DATA	PRPS.	Y	[CHAR 1] [M] TEST PURPOSE
~TEST DATA	TTYP.	11	[NUM 2] [M] TEST TYPE CODE
~TEST DATA	TTNC.	ACOUSTIC BU	[CHAR 20] [O] TEST TYPE NAME
~TEST DATA	SERCO.	DEI	[CHAR 5] [M] SERVICE COMPANY CODE
~TEST DATA	TTOPL.M	1336.0	[NUM 5.5] [M] TEST/PRODUCING INTERVAL TOP (LOG)
~TEST DATA	TBASL.M	1338.5	[NUM 5.5] [M] TEST/PRODUCING INTERVAL BASE (LOG)
~TEST DATA	TTOPT.M	1336.0	[NUM 5.5] [M] TEST/PRODUCING INTERVAL TOP (TVD)
~TEST DATA	TBAST.M	1338.5	[NUM 5.5] [M] TEST/PRODUCING INTERVAL BASE (TVD)
~TEST DATA	STRT.DAY/HR	1997 11 27 1000	[YYYY MM DD HHHH] [O] TEST START DATE/TIME
~TEST DATA	TISI.DAY/HR	1997 11 27 1000	[YYYY MM DD HHHH] [M] DATE/TIME WELL SHUT-IN
~TEST DATA	FTDT.DAY/HR	1997 12 01 0006	[YYYY MM DD HHHH] [M] TEST FINAL DATE/TIME
~TEST DATA	TSUR.DEGC	4.0	[NUM 3.2] [O] SURFACE TEMPERATURE
~TEST DATA	TUPS.KPAA		[NUM 8.2] [O] INITIAL TUBING PRESSURE
~TEST DATA	CSPS.KPAA	4295.8	[NUM 8.2] [O] INITIAL CASING PRESSURE
~TEST DATA	QGAS.E3M3/D	0.8	[NUM 9.4] [M] GAS PRODUCTION RATE PRIOR TO TEST
~TEST DATA	QOIL.M3/D	2.0	[NUM 9.4] [M] OIL PRODUCTION RATE PRIOR TO TEST
~TEST DATA	QWTR.M3/D	0.35	[NUM 9.4] [M] WATER PRODUCTION RATE PRIOR TO TEST
~TEST DATA	QDAT.DAY	1997 11 27	[YYYY MM DD] [M] DATE OF PRODUCTION RATES
~RESULTS - SUMMARY	STGR.KPA/M	8.1895	[NUM 2.3] [M] REPRESENTATIVE PRESSURE GRADIENT
~RESULTS - SUMMARY	TRES.DEGC	41.0	[NUM 3.2] [M] RESERVOIR TEMPERATURE
~RESULTS - SUMMARY	PMPP.KPAA	5504.22	[NUM 6.2] [M] REPRESENTATIVE BOTTOM HOLE PRESSURE
~RESULTS - SUMMARY	VALC.	PRESSURE FALLS WITHIN GUIDE 40	[CHAR 240] [O] VALIDATION COMMENT
~RESULTS - SUMMARY	AWSC.		[CHAR 50] [O] COMMENT
~HEADER DATA - ACOUSTIC	TSURM.DEGC	4.0	[NUM 3.2] [M] MEAN ANNUAL SURFACE TEMP
~HEADER DATA - ACOUSTIC	DOIL.KG/M3	880.7	[NUM 4.2] [M] OIL DENSITY
~HEADER DATA - ACOUSTIC	SGG.	0.788	[NUM 1.3] [M] GAS SPECIFIC GRAVITY
~HEADER DATA - ACOUSTIC	CASS.	C	[CHAR 1] [O] CASING OPEN/CLOSED INDICATOR

AWS (spreadsheet) EXAMPLE

~HEADER DATA - ACOUSTIC	DPTS.	N	[CHAR 1] [M] ANNULAR DEPRESSION TEST INDICATOR				
~HEADER DATA - ACOUSTIC	METHC.		[CHAR 240] [O] METHOD OF CALCULATION COMMENT				
~HEADER DATA - ACOUSTIC	PPLV.M	1312.47	[NUM 5.5] [O] PUMPING LIQUID LEVEL (TVD)				
~DATA TABLE - ACOUSTIC	TCUM.HR		[NUM 5.5] [M] CUMULATIVE TIME AFTER SHUT IN				
~DATA TABLE - ACOUSTIC	LLV.M		[NUM 5.5] [M] LIQUID LEVEL (TVD)				
~DATA TABLE - ACOUSTIC	PSUR.KPAA		[NUM 6.2] [M] SURFACE PRESSURE				
~DATA TABLE - ACOUSTIC	GRGAS.KPA/M		[NUM 2.3] [M] GAS GRADIENT				
~DATA TABLE - ACOUSTIC	GROIL.KPA/M		[NUM 2.3] [M] OIL GRADIENT				
~DATA TABLE - ACOUSTIC	GRWTR.KPA/M		[NUM 2.3] [M] WATER GRADIENT				
~DATA TABLE - ACOUSTIC	PMPP.KPAA		[NUM 6.2] [M] CALCULATED PRESSURE AT MPP (TVD)				
~DTAC	TCUM	LLV	PSUR	GRGAS	GROIL	GRWTR	PMPP
~DTAC	0.0	1312.47	1213.15	0.4758	8.1895	9.795	1601.19
~DTAC	0.02	1312.16	1219.34	0.4758	8.1895	9.795	1609.74
~DTAC	0.03	1311.85	1225.53	0.4758	8.1895	9.795	1618.3
~DTAC	0.05	1311.55	1231.72	0.4758	8.1895	9.795	1626.86
~DTAC	0.07	1311.24	1237.92	0.4758	8.1895	9.795	1635.42
~DTAC	0.08	1310.93	1244.11	0.4758	8.1895	9.795	1643.97
~DTAC	0.1	1310.62	1250.3	0.4758	8.1895	9.795	1652.54
~DTAC	0.12	1310.31	1256.49	0.4758	8.1895	9.795	1661.1
~DTAC	0.13	1310.21	1262.68	0.4758	8.1895	9.795	1669.67
~DTAC	0.15	1309.7	1268.87	0.4758	8.1895	9.795	1678.23
~DTAC	0.17	1309.39	1275.06	0.4758	8.1895	9.795	1686.8
~DTAC	0.18	1309.08	1281.25	0.4758	8.1895	9.795	1695.37
~DTAC	0.2	1308.77	1287.44	0.4758	8.1895	9.795	1703.94
~DTAC	0.22	1308.46	1293.63	0.4758	8.1895	9.795	1712.51
~DTAC	0.23	1308.15	1299.82	0.4758	8.1895	9.795	1721.09
~DTAC	0.25	1307.85	1306.01	0.4758	8.1895	9.795	1729.66
~DTAC	0.28	1307.3	1317.01	0.4758	8.1895	9.795	1744.9
~DTAC	0.34	1306.27	1337.63	0.4758	8.1895	9.795	1773.47
~DTAC	0.42	1304.77	1367.86	0.4758	8.1895	9.795	1815.39
~DTAC	0.52	1302.78	1407.71	0.4758	8.1895	9.795	1870.71
****** NOTE *** DATA TABLE (DTAC) has been compressed for G-52 printing purposes ONLY!***							
~DTAC	54.35	1275.84	4223.89	0.4758	8.1895	9.795	5421.65
~DTAC	56.03	1275.86	4227.03	0.4758	8.1895	9.795	5425.08
~DTAC	57.74	1275.88	4230.21	0.4758	8.1895	9.795	5428.62
~DTAC	59.48	1275.89	4233.45	0.4758	8.1895	9.795	5432.25
~DTAC	61.25	1275.89	4236.73	0.4758	8.1895	9.795	5435.98
~DTAC	63.04	1275.89	4240.06	0.4758	8.1895	9.795	5439.81
~DTAC	64.85	1275.89	4243.43	0.4758	8.1895	9.795	5443.73
~DTAC	66.7	1275.89	4246.86	0.4758	8.1895	9.795	5447.69
~DTAC	68.56	1275.89	4250.33	0.4758	8.1895	9.795	5451.71
~DTAC	70.46	1275.89	4253.85	0.4758	8.1895	9.795	5455.78
~DTAC	72.38	1275.89	4257.42	0.4758	8.1895	9.795	5459.9
~DTAC	74.32	1275.89	4261.04	0.4758	8.1895	9.795	5464.08
~DTAC	76.29	1275.89	4264.7	0.4758	8.1895	9.795	5468.32
~DTAC	78.29	1275.89	4268.42	0.4758	8.1895	9.795	5472.61
~DTAC	80.32	1275.89	4272.18	0.4758	8.1895	9.795	5476.96
~DTAC	82.37	1275.89	4275.99	0.4758	8.1895	9.795	5481.37
~DTAC	84.44	1275.89	4279.85	0.4758	8.1895	9.795	5485.82
~DTAC	86.54	1275.89	4283.75	0.4758	8.1895	9.795	5490.34
~DTAC	88.67	1275.89	4287.71	0.4758	8.1895	9.795	5494.91
~DTAC	90.82	1275.89	4291.71	0.4758	8.1895	9.795	5499.54
~DTAC	93.0	1275.89	4295.76	0.4758	8.1895	9.795	5504.22
~ANALYSIS - GENERAL INFORMATION	ADAT.DAY	1998 01 30	[YYYY MM DD] [O] DATE ANALYSIS COMPLETED				
~ANALYSIS - GENERAL INFORMATION	ANCO.	DEI	[CHAR 20] [O] FIRM THAT CONDUCTED ANALYSIS				
~ANALYSIS - GENERAL INFORMATION	ANAM.	AYDIN	[CHAR 20] [O] ANALYST'S NAME				
~ANALYSIS - GENERAL INFORMATION	PHASE.		[CHAR 1] [O] DOMINANT PHASE USED IN ANALYSIS				

AWS (spreadsheet) EXAMPLE

~ANALYSIS - GENERAL INFORMATION	TRET.		[CHAR 20] [O] LAST TREATMENT				
~ANALYSIS - GENERAL INFORMATION	DTRET.DAY		[YYYY MM DD] [O] DATE OF LAST TREATMENT				
~ANALYSIS - GENERAL INFORMATION	GENC.		[CHAR 240] [O] UNSPECIFIED GENERAL COMMENT				
~ANALYSIS - GENERAL INFORMATION	PEXTR.KPAA	6391.7	[NUM 6.2] [MO] EXTRAPOLATED/FALSE PRESSURE AT MPP (TVD)				
~ANALYSIS - GENERAL INFORMATION	PAVG.KPAA	6391.7	[NUM 6.2] [MO] AVERAGE RESERVOIR PRESSURE AT MPP (TVD)				
~ANALYSIS - INPUT PARAMETERS	SATW.FRACTION	0.25	[NUM 1.2] [O] ASSUMED WATER SATURATION FRACTION				
~ANALYSIS - INPUT PARAMETERS	SATG.FRACTION		[NUM 1.2] [O] ASSUMED GAS SATURATION FRACTION				
~ANALYSIS - INPUT PARAMETERS	SATO.FRACTION	0.75	[NUM 1.2] [O] ASSUMED OIL SATURATION FRACTION				
~ANALYSIS - INPUT PARAMETERS	HZFL.M		[NUM 5.5] [MO] HORIZONTAL WELL LENGTH IN FORMATION				
~ANALYSIS - INPUT PARAMETERS	PAY.M	2.5	[NUM 5.5] [O] VERTICAL HEIGHT OF FORMATION				
~ANALYSIS - INPUT PARAMETERS	PORO.FRACTION	0.15	[NUM 1.3] [O] ASSUMED POROSITY FRACTION				
~ANALYSIS - INPUT PARAMETERS	GEOC.	ANALYSIS INDICATES A HOMOGENEOUS RESERVOIR	[CHAR 240] [O] GEOLOGICAL COMMENTS				
~ANALYSIS - FLUID PROPERTIES	PVTP.KPAA		[NUM 6.2] [O] PVT REFERENCE PRESSURE				
~ANALYSIS - FLUID PROPERTIES	RDOIL.		[NUM 1.3] [O] OIL RELATIVE DENSITY				
~ANALYSIS - FLUID PROPERTIES	RDGAS.	0.788	[NUM 1.3] [O] GAS RELATIVE DENSITY				
~ANALYSIS - FLUID PROPERTIES	RDWTR.		[NUM 1.3] [O] WATER RELATIVE DENSITY				
~ANALYSIS - FLUID PROPERTIES	CT.KPA-1	1.6279	[NUM 1.8] [O] TOTAL COMPRESSIBILITY				
~ANALYSIS - FLUID PROPERTIES	UOIL.MPAS	4.7481	[NUM 4.8] [O] OIL VISCOSITY				
~ANALYSIS - FLUID PROPERTIES	UGAS.MPAS		[NUM 1.8] [O] GAS VISCOSITY				
~ANALYSIS - FLUID PROPERTIES	Z.		[NUM 2.2] [O] GAS DEVIATION FACTOR				
~ANALYSIS - FLUID PROPERTIES	BO.RM3/M3	1.09	[NUM 2.2] [O] OIL FORMATION VOLUME FACTOR				
~ANALYSIS - FLUID PROPERTIES	RS.M3/M3	3.0	[NUM 5.2] [O] OIL SOLUTION				
~ANALYSIS - FLUID PROPERTIES	PBP.KPAA	6299.52	[NUM 6.2] [O] OIL BUBBLE POINT PRESSURE				
~ANALYSIS - INTERPRETATION (1)	ANUM.	1	[NUM 2] [O] ANALYSIS NUMBER				
~ANALYSIS - INTERPRETATION (1)	ANTYP.	BU	[CHAR 2] [O] BUILDUP OR FALLOFF ANALYSIS				
~ANALYSIS - INTERPRETATION (1)	TFLO.HR	8760.0	[NUM 5.5] [O] FLOW TIME PERIOD BEFORE TRANSIENT				
~ANALYSIS - INTERPRETATION (1)	PWF.KPAA	1601.2	[NUM 6.2] [O] SANDFACE FLOWING PRESSURE AT SHUT-IN				
~ANALYSIS - INTERPRETATION (1)	TEVN.HR	93.0	[NUM 5.5] [O] DURATION OF BUILDUP OR FALLOFF				
~ANALYSIS - INTERPRETATION (1)	MODLC.	MRC AND CONVENTIONAL ANALYSIS TECHNIQUES	[CHAR 240] [O] MODEL USED FOR ANALYSIS COMMENT				
~ANALYSIS - INTERPRETATION (1)	PHASC.		[CHAR 240] [O] MULTI OR SINGE PHASE COMMENT				
~ANALYSIS - INTERPRETATION (1)	KH.MD	135.75	[NUM 6.2] [O] CALCULATED FLOW CAPACITY				
~ANALYSIS - INTERPRETATION (1)	KHC.		[CHAR 240] [O] COMMENTS ON KH				
~ANALYSIS - INTERPRETATION (1)	STORC.M3/KPA		[NUM 1.9] [O] WELLBORE STORAGE CONSTANT				
~ANALYSIS - INTERPRETATION (1)	XF.M		[NUM 4] [O] FRACTURE HALF LENGTH				
~ANALYSIS - INTERPRETATION (1)	SKIN.	18.5	[NUM 3.2] [O] CALCULATED SKIN FACTOR				
~ANALYSIS - INTERPRETATION (1)	SKINC.		[CHAR 240] [O] COMMENTS ON SKIN				
~ANALYSIS - INTERPRETATION (1)	LMP.KPAA	5504.22	[NUM 6.2] [O] LAST MEASURED PRESSURE AT MPP (TVD)				
~ANALYSIS - INTERPRETATION (1)	LMPC.	LAST POINT USED	[CHAR 240] [O] SOURCE OF LAST MEASURED PRESSURE				
~ANALYSIS - INTERPRETATION (1)	PEXTR.KPAA	6391.7	[NUM 6.2] [O] EXTRAPOLATED/FALSE PRESSURE AT MPP (TVD)				
~ANALYSIS - INTERPRETATION (1)	PAVG.KPAA	6391.7	[NUM 6.2] [O] AVERAGE RESERVOIR PRESSURE AT MPP (TVD)				
~ANALYSIS - INTERPRETATION (1)	PAVGC.	CRB MODEL	[CHAR 240] [O] METHOD TO CALCULATE AVERAGE PRESSURE				
~ANALYSIS - INTERPRETATION (1)	SHAPC.	U SHAPED	[CHAR 240] [O] COMMENT ON RESERVOIR SHAPE				
~ANALYSIS - INTERPRETATION (1)	AREA.HA	64.0	[NUM 5.1] [O] AREAL EXTENT OF RESERVOIR				
~ANALYSIS - INTERPRETATION (1)	BNDYC.		[CHAR 240] [O] DISCUSSION OF BOUNDARIES COMMENT				
~ANALYSIS - INTERPRETATION (1)	AOFST.E3M3/D		[NUM 9.4] [O] GAS WELL STABILIZED AOF				
~ANALYSIS - INTERPRETATION (1)	AOFTR.E3M3/D		[NUM 9.4] [O] GAS WELL TRANSIENT AOF				
~ANALYSIS - INTERPRETATION (1)	IPRST.M3/D	4.3	[NUM 9.4] [O] OIL WELL STABILIZED IPR				
~ANALYSIS - INTERPRETATION (1)	IPRTR.M3/D	5.4	[NUM 9.4] [O] OIL WELL TRANSIENT IPR				
~ANALYSIS - INTERPRETATION (1)	PTIM.HR	8760.0	[NUM 5.5] [O] PRODUCING TIME				
~ANALYSIS - INTERPRETATION (1)	HTIM.HR		[NUM 5.5] [O] HORNER PRODUCING TIME				

DST (spreadsheet) EXAMPLE

#			
# The definition [NUM X.Y] indicates that there are X digits to the left of the decimal			
# and Y digits to the right of the decimal (EG: [NUM 3.2] = 123.45)			
#			
~VERSION	TYPE.	PAS-DST	DIGITAL DATA - DRILL STEM TEST
~VERSION	UNIT.	M	UNITS FLAG
~VERSION	VERS.	2.1	CIM\EUB DIGITAL WELL TEST DATA
~WELL INFORMATION	COMP.	Renaissance Energy Ltd.	[CHAR 60] [M] COMPANY NAME
~WELL INFORMATION	UWI.	100/14-05-074-02W5/0	[9XX/99-99-999-99W9/9] [M] UNIQUE WELL ID
~WELL INFORMATION	WLIC.	195165	[CHAR 9] [M] EUB WELL LICENSE NUMBER
~WELL INFORMATION	FORM.	Wabiskaw	[CHAR 20] [M] FORMATION NAME
~WELL INFORMATION	WSFL.	2	[NUM 2] [MO] WELL FLUID STATUS AT TEST DATE
~WELL INFORMATION	WSMO.		[NUM 2] [O] WELL MODE STATUS AT TEST DATE
~WELL INFORMATION	WSTY.		[NUM 2] [O] WELL TYPE STATUS AT TEST DATE
~WELL INFORMATION	WTYP.	V	[CHAR 1] [M] WELL TYPE INDICATOR
~WELL INFORMATION	WHDP.M		[NUM 5.5] [O] WHIPSTOCK DEPTH (TVD)
~WELL INFORMATION	HLID.MM	158.7	[NUM 3.1] [M] HOLE DIAMETER
~WELL INFORMATION	PCID.MM	114.3	[NUM 3.1] [O] PRODUCTION CASING INSIDE DIAMETER
~WELL INFORMATION	DPID.MM	70.2	[NUM 3.1] [M] DRILL PIPE INSIDE DIAMETER
~WELL INFORMATION	TD.M	652.0	[NUM 5.5] [O] TOTAL DEPTH (LOG)
# NOTE: DUE to timing and available electronic data -			
# Various "Optional" elements may be missing (WTC G-52 purpose only)			
# Whenever possible - please include as many of these as possible			
# to make the "raw data" and future independent interpretations more valuable			
~TEST DATA	PRPS.	N	[CHAR 1] [M] TEST PURPOSE
~TEST DATA	DSTTY.	2	[NUM 2] [M] DST TEST TYPE CODE
~TEST DATA	TTNC.	Inflate Straddle	[CHAR 20] [O] TEST TYPE NAME
~TEST DATA	SRCE.	Test 1 of 2	[CHAR 12] [O] SOURCE OF THIS DATA
~TEST DATA	TNUM.	1	[NUM 4] [M] DST NUMBER
~TEST DATA	SERCO.	BAKER	[CHAR 5] [M] SERVICE COMPANY CODE
~TEST DATA	TTOPL.M	620.5	[NUM 5.5] [M] TEST/PRODUCING INTERVAL TOP (LOG)
~TEST DATA	TBASL.M	624.5	[NUM 5.5] [M] TEST/PRODUCING INTERVAL BASE (LOG)
~TEST DATA	TTOPT.M	620.5	[NUM 5.5] [MO] TEST/PRODUCING INTERVAL TOP (TVD)
~TEST DATA	TBAST.M	624.5	[NUM 5.5] [MO] TEST/PRODUCING INTERVAL BASE (TVD)
~TEST DATA	HOLC.	Fair	[CHAR 240] [O] HOLE CONDITION
~TEST DATA	TSUR.DEGC		[NUM 3.2] [O] SURFACE TEMPERATURE
~TEST DATA	TUPS.KPAA		[NUM 6.2] [O] INITIAL TUBING PRESSURE
~TEST DATA	CSPS.KPAA		[NUM 6.2] [O] INITIAL CASING PRESSURE
~TEST DATA	FTUPS.KPAA		[NUM 6.2] [O] FINAL TUBING PRESSURE
~TEST DATA	FCSPS.KPAA		[NUM 6.2] [O] FINAL CASING PRESSURE
~TEST DATA	TPCK.MM		[NUM 3.1] [O] TOP CHOKE SIZE
~TEST DATA	BTCK.MM	25.4	[NUM 30.1] [O] BOTTOM CHOKE SIZE
~TEST DATA	STRT.DAY/HR	1997 02 26 2230	[YYYY MM DD HHHH] [O] START DATE/TIME OF TEST
~TEST DATA	OPEN.DAY/HR	1997 02 27 0123	[YYYY MM DD HHHH] [O] DATE/TIME TOOL OPENED
~TEST DATA	FTDT.DAY/HR	1997 02 27 1600	[YYYY MM DD HHHH] [M] FINAL TEST DATE/TIME
~TEST DATA	MSRN.	N	[CHAR 1] [M] TEST MISRUN INDICATOR
~TEST DATA	CCCO.		[CHAR 20] [O] CLOSED CHAMBER COMPANY
~TEST SUMMARY DATA	GSER.	K72	[CHAR 20] [M] GAUGE SERIAL NUMBER
~TEST SUMMARY DATA	BSW.FRACTION		[NUM 1.3] [O] BASIC SAND AND WATER PERCENTAGE
~TEST SUMMARY DATA	VCON.M3		[NUM 9.4] [O] AMOUNT OF CONDENSATE PRODUCED
~TEST SUMMARY DATA	TRES.DEGC	27.8	[NUM 3.2] [O] RESERVOIR TEMPERATURE
~TEST SUMMARY DATA	SDGA.M	623.0	[NUM 5.5] [M] REPRESENTATIVE STOP DEPTH
~TEST SUMMARY DATA	PRGA.KPAA	2603.0	[NUM 6.2] [MO] PRESSURE AT STOP DEPTH (TVD)
~TEST SUMMARY DATA	PRFFG.KPAA	1932.8	[NUM 6.2] [MO] FLOWING PRESSURE AT STOP DEPTH (TVD)
~TEST SUMMARY DATA	VGAS.E3M3		[NUM 9.4] [O] GAS FLOWED DURING TEST
~TEST SUMMARY DATA	H2S.FRACTION		[NUM 1.4] [O] H2S CONTENT
~TEST SUMMARY DATA	VOIL.M3		[NUM 9.4] [O] OIL PRODUCED DURING TEST
~TEST SUMMARY DATA	SGO.		[NUM 4.2] [O] OIL PRODUCED DURING TEST
~TEST SUMMARY DATA	VWTR.M3		[NUM 9.4] [O] WATER PRODUCED DURING TEST
~TEST SUMMARY DATA	WCF.FRACTION		[NUM 1.3] [O] FINAL WATER CUT

DST (spreadsheet) EXAMPLE

~TEST SUMMARY DATA	DOIL.KG/M3		[NUM 4.2] [O] OIL DENSITY						
~TEST SUMMARY DATA	RSLTC.		[CHAR 240] [O] TEST RESULT QUALITY COMMENT						
~TEST SUMMARY DATA	GRSD.KPA/M		[NUM 2.3] [MO] REPRESENTATIVE PRESSURE GRADIENT						
~DRILL MUD AND RECOVERIES	MUTP.	Gel Chemical	[CHAR 12] [M] MUD TYPE						
~DRILL MUD AND RECOVERIES	MURS.OHM		[NUM 4.4] [O] MUD RESISTIVITY						
~DRILL MUD AND RECOVERIES	MUSL.PPM		[NUM 6.2] [O] MUD SALINITY						
~DRILL MUD AND RECOVERIES	MUWT.KG/M3	1115.0	[NUM 5.4] [O] MUD WEIGHT						
~DRILL MUD AND RECOVERIES	MTST.	Y	[CHAR 1] [M] MULTIPLE TEST RECOVERY INDICATOR						
~CUSHION	CUIS.	N	[CHAR 1] [M] CUSHION USED						
~CUSHION	CUTP.		[NUM 1] [MO] CUSHION TYPE CODE						
~CUSHION	CUTC.		[CHAR 12] [O] CUSHION FLUID TYPE COMMENT						
~CUSHION	CUGP.KPAA		[NUM 6.2] [O] CUSHION GAS PRESSURE						
~CUSHION	CUVL.M3		[NUM 9.4] [O] CUSHION VOLUME						
~CUSHION	CUIV.M3		[NUM 9.4] [O] CUSHION INHIBITOR VOLUME						
~CUSHION	CULN.M		[NUM 5.5] [MO] CUSHION LINEAR LENGTH						
~CUSHION	CUIL.M		[NUM 5.5] [MO] INITIAL CUSHION LENGTH						
~CUSHION	LCGR.KPA/M		[NUM 2.3] [MO] LIQUID CUSHION GRADIENT						
~CUSHION	VNCM.M3		[NUM 9.4] [MO] NET CHAMBER VOLUME						
~FIRST FLOW RATES - DST	TSPF.DAY/HR		[YYYY MM DD HHHH] [O] PREFLOW START TIME						
~FIRST FLOW RATES - DST	TDPF.MIN	9.4998	[NUM 5.5] [O] PREFLOW DURATION						
~FIRST FLOW RATES - DST	QGPF.E3M3/D		[NUM 9.4] [O] PREFLOW GAS FLOW RATE						
~FIRST FLOW RATES - DST	QOPF.M3/D		[NUM 9.4] [O] PREFLOW OIL FLOW RATE						
~FIRST FLOW RATES - DST	QWPF.M3/D		[NUM 9.4] [O] PREFLOW WATER FLOW RATE						
~FIRST FLOW RATES - DST	TPGS.MIN	1.9998	[NUM 5.5] [O] TIME FOR PREFLOW GAS TO SURFACE						
~FIRST FLOW RATES - DST	TPOS.MIN		[NUM 5.5] [O] TIME FOR PREFLOW OIL TO SURFACE						
~FIRST FLOW RATES - DST	TPWS.MIN		[NUM 5.5] [O] TIME FOR PREFLOW WATER TO SURFACE						
~SECOND FLOW RATES - DST	TS2F.DAY/HR		[YYYY MM DD HHHH] [O] SECOND FLOW START DATE/TIME						
~SECOND FLOW RATES - DST	TD2F.MIN		[NUM 5.5] [O] SECOND FLOW DURATION						
~SECOND FLOW RATES - DST	QG2F.E3M3/D		[NUM 9.4] [O] SECOND GAS FLOW RATE						
~SECOND FLOW RATES - DST	QO2F.M3/D		[NUM 9.4] [O] SECOND OIL FLOW RATE						
~SECOND FLOW RATES - DST	QW2F.M3/D		[NUM 9.4] [O] SECOND WATER FLOW RATE						
~SECOND FLOW RATES - DST	TIGS.MIN		[NUM 5.5] [O] TIME FOR INITIAL FLOW GAS TO SURFACE						
~SECOND FLOW RATES - DST	TIOS.MIN		[NUM 5.5] [O] TIME FOR INITIAL FLOW OIL TO SURFACE						
~SECOND FLOW RATES - DST	TIWS.MIN		[NUM 5.5] [O] TIME FOR INITIAL FLOW WTR TO SURFACE						
~FINAL FLOW RATES - DST	TSFF.DAY/HR		[YYYY MM DD HHHH] [O] FINAL FLOW START DATE/TIME						
~FINAL FLOW RATES - DST	TDFF.MIN	64.5	[NUM 5.5] [O] FINAL FLOW DURATION						
~FINAL FLOW RATES - DST	QGFF.E3M3/D	10.206	[NUM 9.4] [O] FINAL GAS FLOW RATE						
~FINAL FLOW RATES - DST	QOFF.M3/D		[NUM 9.4] [O] FINAL OIL FLOW RATE						
~FINAL FLOW RATES - DST	QWFF.M3/D		[NUM 9.4] [O] FINAL WATER FLOW RATE						
~FINAL FLOW RATES - DST	QGMX.E3M3/D	10.206	[NUM 9.4] [O] MAXIMUM GAS FLOW RATE						
~FINAL FLOW RATES - DST	QOMX.M3/D		[NUM 9.4] [O] MAXIMUM OIL FLOW RATE						
~FINAL FLOW RATES - DST	QWMX.M3/D		[NUM 9.4] [O] MAXIMUM WATER FLOW RATE						
~FINAL FLOW RATES - DST	TFGS.MIN		[NUM 5.5] [O] TIME FOR FINAL FLOW GAS TO SURFACE						
~FINAL FLOW RATES - DST	TFOS.MIN		[NUM 5.5] [O] TIME FOR FINAL FLOW OIL TO SURFACE						
~FINAL FLOW RATES - DST	TFWS.MIN		[NUM 5.5] [O] TIME FOR FINAL FLOW WTR TO SURFACE						
~RECOVERIES - DST	RPXX.M OR M3	H	[CHAR 1] [M] RECOVERY VOLUMES INDICATOR						
~DATA TABLE - RECOVERIES	RXX2.M OR M3		[NUM 9.4] [MO] RECOVERY AMOUNT						
~DATA TABLE - RECOVERIES	RXXC.		[NUM 3] [MO] RECOVERY TYPE CODE						
~DATA TABLE - RECOVERIES	RXXD.		[CHAR 30] [MO] RECOVERY DESCRIPTION						
~DTREC	RXX2	RXXC	RXXD						
~DTREC	11.0	151	FRESH WATER						
~HEADER DATA - GAUGE (1)	MSRN.	N	[CHAR 1] [M] GAUGE MISRUN INDICATOR						
~HEADER DATA - GAUGE (1)	GSER.	K72	[CHAR 20] [M] GAUGE SERIAL NUMBER						
~HEADER DATA - GAUGE (1)	GTYP.	Electronic	[CHAR 30] [M] GAUGE TYPE						
~HEADER DATA - GAUGE (1)	GMAN.	Zi Probes	[CHAR 60] [M] GAUGE MANUFACTURER						
~HEADER DATA - GAUGE (1)	GRNG.KPAA	68900.0	[NUM 6.2] [M] MAXIMUM RECORDER RANGE						
~HEADER DATA - GAUGE (1)	GCAL.DAY	1997 11 14	[YYYY MM DD] [M] DATE OF LAST CALIBRATION						
~HEADER DATA - GAUGE (1)	GRES.	0.05	[NUM 1.5] [O] PUBLISHED RESOLUTION % OF FULL SCALE						
~HEADER DATA - GAUGE (1)	GACC.	0.25	[NUM 1.5] [O] PUBLISHED ACCURACY % OF FULL SCALE						
~HEADER DATA - GAUGE (1)	SDGA.M	623.0	[NUM 5.5] [M] GAUGE RUN DEPTH (TVD)						

DST (spreadsheet) EXAMPLE

~HEADER DATA - GAUGE (1)	GPOS.	O	[CHAR 1] [M] GAUGE POSITION INDICATOR	
~FLOW SUMMARY DATA TABLE - GAUGE (1)	STGE.		[CHAR 2] [M] STAGE NUMBER	
~FLOW SUMMARY DATA TABLE - GAUGE (1)	FSTGC.		[CHAR 22] [M] STAGE DESCRIPTION	
~FLOW SUMMARY DATA TABLE - GAUGE (1)	PRGA.KPAA		[NUM 6.2] [M] GAUGE PRESSURE	
~FLOW SUMMARY DATA TABLE - GAUGE (1)	TSTD.MIN		[NUM 5.5] [M] STAGE DURATION	
~DTFG (1)	STGE	FSTGC	PRGA	TSTD
~DTFG (1)	1	Initial Hydrostatic	6997.0	0.0
~DTFG (1)	2	Start 1st Flow	693.0	0.0
~DTFG (1)	3	End 1st Flow	1218.0	9.5
~DTFG (1)	4	End 1st Shutin	2636.0	56.0
~DTFG (1)	5	Start 2nd Flow	1543.0	0.0
~DTFG (1)	6	End 2nd Flow	2092.0	64.5
~DTFG (1)	7	End 2nd Shutin	2603.0	96.0
~DTFG (1)	14	Final Hydrostatic	6881.0	0.0
~DATA TABLE - GAUGE (1)	TCUM.MIN		[NUM 5.5] [M] GAUGE CUMULATIVE TIME	
~DATA TABLE - GAUGE (1)	PRGA.KPAA		[NUM 6.2] [M] GAUGE PRESSURE	
~DATA TABLE - GAUGE (1)	TGA.DEGC		[NUM 3.2] [M] GAUGE TRANSIENT TEMPERATURE	
~DTG (1)	TCUM	PRGA	TGA	
~DTG (1)	0.0	0.0	8.36	
****** NOTE *** DATA TABLE (DTG1) has been compressed for G-52 printing purposes ONLY***				
~DTG (1)	3.325	6999.44	27.72	
~DTG (1)	3.33333	7001.83	27.71	
~DTG (1)	3.34167	6997.76	27.71	
~DTG (1)	3.35	6998.46	27.71	
~DTG (1)	3.4	6995.53	27.72	
~DTG (1)	3.59167	2393.81	27.73	
~DTG (1)	3.6	693.48	27.7	
~DTG (1)	3.60833	727.88	27.71	
~DTG (1)	3.75	1189.09	26.92	
~DTG (1)	3.75833	1218.39	26.85	
~DTG (1)	3.76667	2499.75	26.79	
~DTG (1)	4.69167	2635.67	26.71	
~DTG (1)	4.71667	2636.71	26.72	
~DTG (1)	4.725	2635.69	26.73	
~DTG (1)	4.78333	2630.6	26.75	
~DTG (1)	4.79167	1542.65	26.76	
~DTG (1)	4.8	1884.24	26.76	
~DTG (1)	5.3	2085.8	26.91	
~DTG (1)	5.30833	2092.37	26.91	
~DTG (1)	5.31667	2098.34	26.91	
~DTG (1)	7.45	2602.86	27.32	
~DTG (1)	7.45833	2603.09	27.32	
~DTG (1)	7.46667	2603.17	27.32	
~DTG (1)	7.63333	6940.95	27.68	
~DTG (1)	7.64167	6881.21	27.69	
~DTG (1)	7.65	6856.73	27.7	
~DTG (1)	7.68333	6839.15	27.75	
~DTG (1)	17.675	11.43	19.42	
~ANALYSIS - GENERAL INFORMATION	ADAT.DAY		[YYYY MM DD] [O] DATE ANALYSIS COMPLETED	
~ANALYSIS - GENERAL INFORMATION	ANCO.		[CHAR 20] [O] COMPANY CONDUCTING ANALYSIS	
~ANALYSIS - GENERAL INFORMATION	ANAM.		[CHAR 20] [O] ANALYST'S NAME	
~ANALYSIS - GENERAL INFORMATION	PHASE.		[CHAR 1] [O] DOMINANT PHASE USED IN ANALYSIS	
~ANALYSIS - GENERAL INFORMATION	GENC.		[CHAR 50] [O] GENERAL UNSPECIFIED COMMENT	
~ANALYSIS - GENERAL INFORMATION	PEXTR.KPAA		[NUM 6.2] [MO] REPRESENTATIVE EXTRAPOLATED/FALSE PRESSURE	
~ANALYSIS - INPUT PARAMETERS	SATW.FRACTION		[NUM 1.2] [O] ASSUMED WATER SATURATION FRACTION	
~ANALYSIS - INPUT PARAMETERS	SATG.FRACTION		[NUM 1.2] [O] ASSUMED GAS SATURATION FRACTION	
~ANALYSIS - INPUT PARAMETERS	SATO.FRACTION		[NUM 1.2] [O] ASSUMED OIL SATURATION FRACTION	
~ANALYSIS - INPUT PARAMETERS	HZFL.M		[NUM 5.5] [MO] HORIZONTAL WELL LENGTH IN FORMATION	
~ANALYSIS - INPUT PARAMETERS	PAY.M		[NUM 5.5] [O] VERTICAL HEIGHT OF FORMATION	
~ANALYSIS - INPUT PARAMETERS	PORO.FRACTION		[NUM 1.3] [O] ASSUMED POROSITY FRACTION	

DST (spreadsheet) EXAMPLE

~ANALYSIS - INPUT PARAMETERS	RADW.MM		[NUM 3.1] [O] WELLBORE RADIUS						
~ANALYSIS - INPUT PARAMETERS	GEOC.		[CHAR 240] [O] GEOLOGICAL COMMENTS						
~ANALYSIS - FLUID PROPERTIES	PPVT.KPAA	2601.1	[NUM 6.2] [O] PVT REFERENCE PRESSURE						
~ANALYSIS - FLUID PROPERTIES	RDOIL.		[NUM 1.3] [O] OIL RELATIVE DENSITY						
~ANALYSIS - FLUID PROPERTIES	RDGAS.		[NUM 1.3] [O] GAS RELATIVE DENSITY						
~ANALYSIS - FLUID PROPERTIES	RDWTR.		[NUM 1.3] [O] WATER RELATIVE DENSITY						
~ANALYSIS - FLUID PROPERTIES	CT.KPA-1		[NUM 1.8] [O] TOTAL COMPRESSIBILITY						
~ANALYSIS - FLUID PROPERTIES	UOIL.MPAS		[NUM 4.8] [O] OIL VISCOSITY						
~ANALYSIS - FLUID PROPERTIES	UGAS.MPAS		[NUM 1.8] [O] GAS VISCOSITY						
~ANALYSIS - FLUID PROPERTIES	Z.		[NUM 2.2] [O] GAS DEVIATION FACTOR						
~ANALYSIS - FLUID PROPERTIES	BO RM3/M3		[NUM 2.2] [O] OIL FORMATION VOLUME FACTOR						
~ANALYSIS - FLUID PROPERTIES	RS.M3/M3		[NUM 5.2] [O] OIL SOLUTION						
~ANALYSIS - FLUID PROPERTIES	PBP.KPAA		[NUM 6.2] [O] OIL BUBBLE POINT PRESSURE						
~ANALYSIS - INTERPRETATION HEADER (n)	ANUM.		[NUM 2] [O] ANALYSIS NUMBER						
~ANALYSIS - INTERPRETATION HEADER (n)	TFLO.MIN		[NUM 5.5] [O] FLOW TIME PERIOD BEFORE BUILDUP						
~ANALYSIS - INTERPRETATION HEADER (n)	PWF.KPAA		[NUM 6.2] [O] SANDFACE FLOWING PRESSURE AT SHUT-IN						
~ANALYSIS - INTERPRETATION HEADER (n)	QOIL.M3/D		[NUM 9.4] [O] OIL FLOW RATE PRIOR TO BUILDUP						
~ANALYSIS - INTERPRETATION HEADER (n)	QGAS.E3M3/D		[NUM 9.4] [O] GAS FLOW RATE PRIOR TO BUILDUP						
~ANALYSIS - INTERPRETATION HEADER (n)	QWTR.M3/D		[NUM 9.4] [O] WATER FLOW RATE PRIOR TO BUILDUP						
~ANALYSIS - INTERPRETATION HEADER (n)	TEVN.MIN		[NUM 5.5] [O] DURATION OF BUILDUP						
~ANALYSIS - INTERPRETATION HEADER (n)	GSER.		[CHAR 20] [O] GAUGE SERIAL NUMBER						
~ANALYSIS - INTERPRETATION HEADER (n)	MODLC.		[CHAR 240] [O] MODEL USED FOR ANALYSIS COMMENT						
~ANALYSIS - INTERPRETATION HEADER (n)	PHASC.		[CHAR 240] [O] MULTI OR SINGE PHASE COMMENT						
~ANALYSIS - INTERPRETATION HEADER (n)	KH.MD		[NUM 6.2] [O] CALCULATED FLOW CAPACITY						
~ANALYSIS - INTERPRETATION HEADER (n)	KHC.		[CHAR 240] [O] COMMENT ON KH						
~ANALYSIS - INTERPRETATION HEADER (n)	STORC.M3/KPA		[NUM 1.9] [O] WELLBORE STORAGE CONSTANT						
~ANALYSIS - INTERPRETATION HEADER (n)	SKIN.		[NUM 3.2] [O] CALCULATED SKIN FACTOR						
~ANALYSIS - INTERPRETATION HEADER (n)	SKINC.		[CHAR 240] [O] COMMENTS ON TURBULENCE						
~ANALYSIS - INTERPRETATION HEADER (n)	LMP.KPAA		[NUM 6.2] [O] LAST MEASURED PRESSURE AT MPP (TVD)						
~ANALYSIS - INTERPRETATION HEADER (n)	LMPC.		[CHAR 240] [O] SOURCE OF LAST MEASURED PRESSURE						
~ANALYSIS - INTERPRETATION HEADER (n)	PEXTR.KPAA	2323.9	[NUM 6.2] [O] EXTRAPOLATED/FALSE PRESSURE AT MPP (TVD)						
~ANALYSIS - INTERPRETATION HEADER (n)	HTIM.MIN		[NUM 5.5] [O] HORNER PRODUCING TIME						
~TEST DATA - CLOSED CHAMBER	SRCE.		[CHAR 12] [O] SOURCE OF THIS DATA						
~TEST DATA - CLOSED CHAMBER	RSLTC.		[CHAR 72] [O] TEST REMARK + BLOW DESCRIPTION						
~TEST DATA - CLOSED CHAMBER	TCHA.DEGC		[NUM 3.2] [MO] AVERAGE TEMPERATURE						
~TEST DATA - CLOSED CHAMBER	PCHSI.KPAA		[NUM 6.2] [MO] INITIAL CHAMBER SURFACE PRESSURE						
~TEST DATA - CLOSED CHAMBER	PIGN.KPAA		[NUM 6.2] [MO] INITIAL TOTAL CUSHION PRESSURE						
~TEST DATA - CLOSED CHAMBER	PTCU.KPAA		[NUM 6.2] [MO] INITIAL TOTAL CUSHION PRESSURE						
~TEST DATA - CLOSED CHAMBER	TPCK.MM		[NUM 3.1] [MO] TOP CHOKE SIZE DESCRIPTION						
~TEST DATA - CLOSED CHAMBER	CKSZ.MM		[NUM 3.1] [MO] DOWNHOLE CHOKE SIZE DESCRIPTION						
~TEST DATA - CLOSED CHAMBER	CKCO.M3/D/KPA		[NUM 6.2] [O] DOWNHOLE CHOKE COEFFICIENT						
~TEST DATA - CLOSED CHAMBER	VCHT.M3		[NUM 9.4] [MO] TOTAL CHAMBER VOLUME						
~TEST DATA - CLOSED CHAMBER	IGCF.M3/D/KPA/MIN		[NUM 5.1] [MO] INITIAL GAS CONVERSION FACTOR						
~TEST DATA - CLOSED CHAMBER	IGSF.M3/D/KPA/MIN		[NUM 5.1] [MO] INITIAL GAS SATURATED H2O CONVERSION FACTOR						
~TEST DATA - CLOSED CHAMBER	LICF.M3/D/KPA/MIN		[NUM 5.1] [MO] PURE LIQUID INFLUX CONVERSION FACTOR						
~DRILL STRING DESCRIPTION	DRCL.M		[NUM 6.2] [O] DRILL COLLAR LENGTH						
~DRILL STRING DESCRIPTION	DCID.MM		[NUM 3.1] [O] DRILL COLLAR INTERNAL DIAMETER						
~DRILL STRING DESCRIPTION	DCCP.M3/M		[NUM 1.7] [O] DRILL COLLAR CAPACITY						
~DRILL STRING DESCRIPTION	DCVL.M3		[NUM 9.4] [O] DRILL COLLAR VOLUME						
~DRILL STRING DESCRIPTION	LDPL.M		[NUM 5.5] [O] LOWER DRILL PIPE LENGTH						
~DRILL STRING DESCRIPTION	LDID.MM		[NUM 3.1] [O] LOWER DRILL PIPE INT DIAMETER						
~DRILL STRING DESCRIPTION	LDPC.M3/M		[NUM 1.7] [O] LOWER DRILL PIPE CAPACITY						
~DRILL STRING DESCRIPTION	LDPV.M3		[NUM 9.4] [O] LOWER DRILL PIPE VOLUME						
~DRILL STRING DESCRIPTION	UDPL.M		[NUM 5.5] [O] UPPER DRILL PIPE LENGTH						
~DRILL STRING DESCRIPTION	UDID.MM		[NUM 3.1] [O] UPPER DRILL PIPE INT DIAMETER						
~DRILL STRING DESCRIPTION	UDPC.M3/M		[NUM 1.7] [O] UPPER DRILL PIPE CAPACITY						
~DRILL STRING DESCRIPTION	UDPV.M3		[NUM 9.4] [O] UPPER DRILL PIPE VOLUME						
~FIRST RATES AND RECOVERIES	VPAN.E3M3		[NUM 9.4] [O] TOTAL PREFLOW AIR/N2 VOLUME						
~FIRST RATES AND RECOVERIES	LPAN.M		[NUM 5.5] [O] TOTAL PREFLOW AIR/N2 LENGTH						
~FIRST RATES AND RECOVERIES	PPAN.KPAA		[NUM 6.2] [O] TOTAL PREFLOW AIR/N2 PRESSURE						

DST (spreadsheet) EXAMPLE

~FIRST RATES AND RECOVERIES	VPR.M3		[NUM 9.4] [O] TOTAL PREFLOW RECOVERY VOLUME						
~FIRST RATES AND RECOVERIES	PASV.M3		[NUM 9.4] [O] TOTAL PREFLOW SHUT-IN AIR/N2 VOLUME						
~FIRST RATES AND RECOVERIES	PASL.M		[NUM 5.5] [O] TOTAL PREFLOW SHUT-IN AIR/N2 LENGTH						
~FIRST RATES AND RECOVERIES	PASP.KPAA		[NUM 6.2] [O] TOTAL PREFLOW SHUT-IN AIR/N2 PRESS						
~FIRST RATES AND RECOVERIES	PFSV.M3		[NUM 9.4] [O] TOTAL PREFLOW SHUT-IN RECOVERY VOLUME						
~SECOND FLOW RATES AND RECOVERIES	IARV.M3		[NUM 9.4] [O] TOTAL INITIAL FLOW AIR/N2 VOLUME						
~SECOND FLOW RATES AND RECOVERIES	IARL.M3		[NUM 5.5] [O] TOTAL INITIAL FLOW AIR/N2 LENGTH						
~SECOND FLOW RATES AND RECOVERIES	IARP.KPAA		[NUM 6.2] [O] TOTAL INITIAL FLOW AIR/N2 PRESSURE						
~SECOND FLOW RATES AND RECOVERIES	IFVM.M3		[NUM 9.4] [O] TOTAL INITIAL FLOW RECOVERY VOLUME						
~SECOND FLOW RATES AND RECOVERIES	IASV.M3		[NUM 9.4] [O] TOTAL INITIAL SHUT-IN AIR/N2 VOLUME						
~SECOND FLOW RATES AND RECOVERIES	IASL.M		[NUM 5.5] [O] TOTAL INITIAL SHUT-IN AIR/N2 LENGTH						
~SECOND FLOW RATES AND RECOVERIES	IASP.KPAA		[NUM 6.2] [O] TOTAL INITIAL SHUT-IN AIR/N2 PRESSURE						
~SECOND FLOW RATES AND RECOVERIES	IFSV.M3		[NUM 9.4] [O] TOTAL INITIAL SHUT-IN RECOVERY VOLUME						
~FINAL FLOW RATES AND RECOVERIES	FGDP.KPAA/MIN		[NUM 6.2] [O] FINAL GAS SURFACE DP/DT						
~FINAL FLOW RATES AND RECOVERIES	FGSW.M3/D		[NUM 9.4] [O] FINAL GAS SATURATED WATER RATE						
~FINAL FLOW RATES AND RECOVERIES	FGWD.KPAA/MIN		[NUM 6.2] [O] FINAL GAS SATURATED WATER SURFACE DP/DT						
~FINAL FLOW RATES AND RECOVERIES	FLIR.M3/D		[NUM 9.4] [O] FINAL PURE LIQUID INFLUX RATE						
~FINAL FLOW RATES AND RECOVERIES	FLID.KPAA/MIN		[NUM 6.2] [O] FINAL LIQUID INFLUX SURFACE DP/DT						
~FINAL FLOW RATES AND RECOVERIES	AVGR.E3M3/D		[NUM 9.4] [O] AVERAGE GAS FLOW RATE						
~FINAL FLOW RATES AND RECOVERIES	AVOR.M3/D		[NUM 9.4] [O] AVERAGE OIL FLOW RATE						
~FINAL FLOW RATES AND RECOVERIES	AVWR.M3/D		[NUM 9.4] [O] AVERAGE WATER FLOW RATE						
~FINAL FLOW RATES AND RECOVERIES	FARV.M3		[NUM 9.4] [O] TOTAL FINAL FLOW AIR/N2 VOLUME						
~FINAL FLOW RATES AND RECOVERIES	FARL.M		[NUM 5.5] [O] TOTAL FINAL FLOW AIR/N2 LENGTH						
~FINAL FLOW RATES AND RECOVERIES	FARP.KPAA		[NUM 6.2] [O] TOTAL FINAL FLOW AIR/N2 PRESSURE						
~FINAL FLOW RATES AND RECOVERIES	FFVM.M3		[NUM 9.4] [O] TOTAL FINAL FLOW RECOVERY VOLUME						
~FINAL FLOW RATES AND RECOVERIES	FASV.M3		[NUM 9.4] [O] TOTAL FINAL SHUT-IN AIR/N2 VOLUME						
~FINAL FLOW RATES AND RECOVERIES	FASL.M		[NUM 5.5] [O] TOTAL FINAL SI AIR/N2 LENGTH						
~FINAL FLOW RATES AND RECOVERIES	FASP.KPAA		[NUM 6.2] [O] TOTAL FINAL SI AIR/N2 PRESSURE						
~FINAL FLOW RATES AND RECOVERIES	FFSV.M3		[NUM 9.4] [O] TOTAL FINAL SI RECOVERY VOLUME						
~FLOW SUMMARY DATA TABLE - CLOSED CHAMBER	STGE.		[CHAR 2] [O] STAGE NUMBER						
~FLOW SUMMARY DATA TABLE - CLOSED CHAMBER	FSTGC.		[CHAR 22] [O] STAGE DESCRIPTION						
~FLOW SUMMARY DATA TABLE - CLOSED CHAMBER	PRGA.KPAA		[NUM 6.2] [O] GAUGE PRESSURE						
~FLOW SUMMARY DATA TABLE - CLOSED CHAMBER	TSTD.MIN		[NUM 5.5] [O] STAGE DURATION						
~DTFCC	STGE	FSTGC	PRGA	TSTD					
~DATA TABLE - CLOSED CHAMBER	STGE.		[CHAR 2] [MO] STAGE NUMBER						
~DATA TABLE - CLOSED CHAMBER	TIME.DAY/HR/SS		[YYYY MM DD HHHH:SS] [MO] REAL TIME						
~DATA TABLE - CLOSED CHAMBER	TCSF.MIN		[NUM 5.5] [MO] CUMULATIVE STAGE FLOW TIME						
~DATA TABLE - CLOSED CHAMBER	SDPT.KPAA/MIN		[NUM 6.2] [O] SURFACE DP/DT						
~DATA TABLE - CLOSED CHAMBER	PSUR.KPAA		[NUM 6.2] [MO] SURFACE PRESSURE						
~DATA TABLE - CLOSED CHAMBER	RDPT.KPAA/MIN		[NUM 6.2] [O] RECOVERY DP/DT						
~DATA TABLE - CLOSED CHAMBER	PRCV.KPAA		[NUM 6.2] [O] RECOVERY PRESSURE						
~DATA TABLE - CLOSED CHAMBER	QLIQ.M3/D		[NUM 9.4] [MO] LIQUID RATE						
~DATA TABLE - CLOSED CHAMBER	QGAS.E3M3/D		[NUM 9.4] [MO] GAS RATE						
~DTCC	STGE	TIME	TCSF	SDPT	PSUR	RDPT	PRCV	QLIQ	QGAS

GAN (spreadsheet) EXAMPLE

#			
# The definition [NUM X.Y] indicates that there are X digits to the left of the decimal			
# and Y digits to the right of the decimal (EG: [NUM 3.2] = 123.45)			
#			
~VERSION	TYPE.	PAS-GAN	DIGITAL DATA - GAS ANALYSIS
~VERSION	UNIT.	M	UNITS FLAG
~VERSION	VERS.	2.1	CIM\EUB DIGITAL PRESSURE DATA
~WELL INFORMATION	COMP.	Petro-Canada	[CHAR 60] [M] COMPANY NAME
~WELL INFORMATION	UWI.	100/03-09-059-10W5/0	[9XX/99-99-999-99w9/9] [M] UNIQUE WELL ID
~WELL INFORMATION	WLIC.	165941	[CHAR 9] [M] EUB WELL LICENSE NUMBER
~WELL INFORMATION	FORM.	PEKISKO	[CHAR 20] [M] FORMATION NAME
~WELL INFORMATION	WSFL.	2	[NUM 2] [M] WELL FLUID STATUS AT TEST DATE
~WELL INFORMATION	WSMO.	1	[NUM 2] [M] WELL MODE STATUS AT TEST DATE
~WELL INFORMATION	WSTY.	1	[NUM 2] [M] WELL TYPE STATUS AT TEST DATE
~WELL INFORMATION	WTYP.	V	[CHAR 1] [M] WELL TYPE INDICATOR
# NOTE: DUE to timing and available electronic data -			
# Various "Optional" elements may be missing (WTC G-52 purpose only)			
# Whenever possible - please include as many of these as possible			
# to make the "raw data" and future independent interpretations more valuable			
~TEST DATA	LABCO.	Chemex Labs Alberta Inc.	[CHAR 25] [M] LABORATORY OR SERVICE COMPANY
~TEST DATA	LFNUM.	G12345	[CHAR 25] [M] LABORATORY FILE NUMBER
~TEST DATA	TTOPL.M	1679.0	[NUM 5.5] [M] TEST/PRODUCING INTERVAL TOP (LOG)
~TEST DATA	TBASL.M	1685.0	[NUM 5.5] [M] TEST/PRODUCING INTERVAL BASE (LOG)
~TEST DATA	TTOPT.M	1679.0	[NUM 5.5] [M] TEST/PRODUCING INTERVAL TOP (TVD)
~TEST DATA	TBAST.M	1685.0	[NUM 5.5] [M] TEST/PRODUCING INTERVAL BASE (TVD)
~TEST DATA	SDAT.DAY	1996 02 26	[YYYY MM DD] [M] DATE SAMPLED
~TEST DATA	IDENT.	290/204	[CHAR 12] [M] CONTAINER IDENTITY
~TEST DATA	SPNT.	60	[NUM 2] [M] SAMPLE POINT CODE
~TEST DATA	HYDLP.	Y	[CHAR 1] [M] HYDROCARBON LIQUIDS PRODUCTION
~TEST DATA	SOLG.	N	[CHAR 1] [M] SOLUTION GAS INDICATOR
~TEST DATA	GLR.M3/M3		[NUM 7] [O] GAS LIQUID RATIO
~TEST DATA	ADAT.DAY	1996 06 11	[YYYY MM DD] [M] DATE ANALYZED
~TEST DATA	ANAM.	M.B.	[CHAR 20] [O] ANALYST NAME
~TEST DATA	GANC.	Onsite H2S by Tutwiler: .08%	[CHAR 50] [O] COMMENT
~GAS ANALYSIS	SGG.	0.65	[NUM 1.3] [M] GAS SPECIFIC GRAVITY
~GAS ANALYSIS	H2SGP.	M	[CHAR 1] [M] HYDROGEN SULFIDE INDICATOR

GAN (spreadsheet) EXAMPLE

~GAS ANALYSIS	H2S.FRACTION	0.0008	[NUM 1.4] [M] HYDROGEN SULFIDE
~GAS ANALYSIS	CO2.FRACTION	0.0242	[NUM 1.4] [M] CARBON DIOXIDE
~GAS ANALYSIS	N2.FRACTION	0.0052	[NUM 1.4] [M] NITROGEN
~GAS ANALYSIS	H2.FRACTION	0.0	[NUM 1.4] [M] HYDROGEN
~GAS ANALYSIS	HE.FRACTION	0.0001	[NUM 1.4] [M] HELIUM
~GAS ANALYSIS	C1.FRACTION	0.8897	[NUM 1.4] [M] METHANE
~GAS ANALYSIS	C2.FRACTION	0.0474	[NUM 1.4] [M] ETHANE
~GAS ANALYSIS	C3.FRACTION	0.0165	[NUM 1.4] [M] PROPANE
~GAS ANALYSIS	IC4.FRACTION	0.0027	[NUM 1.4] [M] ISO-BUTANE
~GAS ANALYSIS	NC4.FRACTION	0.0055	[NUM 1.4] [M] N-BUTANE
~GAS ANALYSIS	IC5.FRACTION	0.0017	[NUM 1.4] [M] ISO-PENTANE
~GAS ANALYSIS	NC5.FRACTION	0.002	[NUM 1.4] [M] N-PENTANE
~GAS ANALYSIS	C6.FRACTION	0.0018	[NUM 1.4] [M] HEXANE
~GAS ANALYSIS	C7+.FRACTION	0.0024	[NUM 1.4] [M] SUM OF HYDROCARBONS GREATER THAN C6
~LIQUID ANALYSIS	RDLIQ.M3/M3	0.738	[NUM 1.3] [MO] RELATIVE DENSITY OF LIQUID
~LIQUID ANALYSIS	RELMM.	112.0	[NUM 3.1] [MO] RELATIVE MOLECULAR MASS
~LIQUID ANALYSIS	BG.RM3/M3		[NUM 2.2] [O] GAS FORMATION VOLUME FACTOR
~LIQUID ANALYSIS	H2SLP.	T	[CHAR 1] [MO] HYDROGEN SULFIDE INDICATOR
~LIQUID ANALYSIS	H2S.FRACTION	0.0	[NUM 1.4] [MO] HYDROGEN SULPHIDE
~LIQUID ANALYSIS	CO2.FRACTION	0.0042	[NUM 1.4] [MO] CARBON DIOXIDE
~LIQUID ANALYSIS	N2.FRACTION	0.0008	[NUM 1.4] [MO] NITROGEN
~LIQUID ANALYSIS	H2.FRACTION		[NUM 1.4] [O] HYDROGEN
~LIQUID ANALYSIS	HE.FRACTION		[NUM 1.4] [O] HELIUM
~LIQUID ANALYSIS	C1.FRACTION	0.0777	[NUM 1.4] [MO] METHANE
~LIQUID ANALYSIS	C2.FRACTION	0.0204	[NUM 1.4] [MO] ETHANE
~LIQUID ANALYSIS	C3.FRACTION	0.0209	[NUM 1.4] [MO] PROPANE
~LIQUID ANALYSIS	iC4.FRACTION	0.0073	[NUM 1.4] [MO] ISO-BUTANE
~LIQUID ANALYSIS	nC4.FRACTION	0.0212	[NUM 1.4] [MO] N-BUTANE
~LIQUID ANALYSIS	iC5.FRACTION	0.0149	[NUM 1.4] [MO] ISO-PENTANE
~LIQUID ANALYSIS	nC5.FRACTION	0.0236	[NUM 1.4] [MO] N-PENTANE
~LIQUID ANALYSIS	C6.FRACTION	0.0556	[NUM 1.4] [MO] HEXANE
~LIQUID ANALYSIS	C7+.FRACTION	0.7534	[NUM 1.4] [MO] SUM OF HYDROCARBONS GREATER THAN C6

OAN (spreadsheet) EXAMPLE

#			
# The definition [NUM X.Y] indicates that there are X digits to the left of the decimal			
# and Y digits to the right of the decimal (EG: [NUM 3.2] = 123.45)			
#			
~VERSION	TYPE.	PAS-OAN	DIGITAL DATA - OIL ANALYSIS
~VERSION	UNIT.	M	UNITS FLAG
~VERSION	VERS.	2.1	CIM/EUB DIGITAL PRESSURE DATA
~WELL INFORMATION	COMP.	STAR OIL & GAS LTD.	[CHAR 60] [M] COMPANY NAME
~WELL INFORMATION	UWI.	100/14-23-080-12w6/0	[9XX/99-99-999-99w9/9] [M] UNIQUE WELL ID
~WELL INFORMATION	WLIC.	190803	[CHAR 9] [M] EUB WELL LICENSE NUMBER
~WELL INFORMATION	FORM.	Baldonnel	[CHAR 20] [M] FORMATION NAME
~WELL INFORMATION	WSFL.	2	[NUM 2] [M] WELL FLUID STATUS AT TEST DATE
~WELL INFORMATION	WSMO.	10	[NUM 2] [M] WELL MODE STATUS AT TEST DATE
~WELL INFORMATION	WSTY.	0	[NUM 2] [M] WELL TYPE STATUS AT TEST DATE
~WELL INFORMATION	WTYP.	V	[CHAR 1] [M] WELL TYPE INDICATOR
# NOTE: DUE to timing and available electronic data -			
# Various "Optional" elements may be missing (WTC G-52 purpose only)			
# Whenever possible - please include as many of these as possible			
# to make the "raw data" and future independent interpretations more valuable			
~TEST DATA	LABCO.	AGAT Laboratories	[CHAR 25] [M] LABORATORY OR SERVICE COMPANY
~TEST DATA	LFNUM.	52136-97-2856	[CHAR 25] [M] LABORATORY FILE NUMBER
~TEST DATA	TTOPL.M	1654.1	[NUM 5.5] [M] TEST/PRODUCING INTERVAL TOP (LOG)
~TEST DATA	TBASL.M	1661.1	[NUM 5.5] [M] TEST/PRODUCING INTERVAL BASE (LOG)
~TEST DATA	TTOPT.M	1654.1	[NUM 5.5] [M] TEST/PRODUCING INTERVAL TOP (TVD)
~TEST DATA	TBAST.M	1661.1	[NUM 5.5] [M] TEST/PRODUCING INTERVAL BASE (TVD)
~TEST DATA	SDAT.DAY	1996 11 06	[YYYY MM DD] [M] DATE SAMPLED
~TEST DATA	IDENT.	PB#1	[CHAR 12] [M] CONTAINER IDENTITY
~TEST DATA	SPNT.	30	[NUM 2] [M] SAMPLE POINT CODE
~TEST DATA	SPNTN.	Wellhead	[CHAR 50] [M] SAMPLE POINT NAME
~TEST DATA	PPC.KPAA	1278.95	[NUM 6.2] [M] PSEUDO CRITICAL PRESSURE
~TEST DATA	PTC.DEGK	130.4	[NUM 3.2] [M] PSEUDO CRITICAL TEMPERATURE
~TEST DATA	ADAT.DAY	1996 11 18	[YYYY MM DD] [M] DATE ANALYZED
~TEST DATA	ANAM.	BRM/NCO	[CHAR 20] [O] ANALYST NAME
~TEST DATA	OANC.	Example for PAS purpose ONLY	[CHAR 50] [O] COMMENT
# EXAMPLE FOR EUB PAS TESTING PURPOSES ONLY			
~SAMPLE PROPERTIES	CNAM.	Yellow	[CHAR 20] [O] COLOUR OF CLEAN OIL
~SAMPLE PROPERTIES	CNUM.	L1.5 a.s.t.m.	[CHAR 20] [O] COLOUR NUMBER
~SAMPLE PROPERTIES	BSWW.FRACTION	0.001	[NUM 1.3] [O] FRACTION OF WATER
~SAMPLE PROPERTIES	BSWS.FRACTION	0.001	[NUM 1.3] [O] FRACTION OF SEDIMENT
~SAMPLE PROPERTIES	BSW.FRACTION	0.001	[NUM 1.3] [O] FRACTION OF TOTAL BS&W
~SAMPLE PROPERTIES	RDNRX.		[NUM 1.3] [O] RELATIVE DENSITY AS RECEIVED
~SAMPLE PROPERTIES	RDNCL.	0.7706	[NUM 1.3] [O] RELATIVE DENSITY AFTER CLEANING
~SAMPLE PROPERTIES	ADNRX.KG/M3		[NUM 5.1] [O] ABSOLUTE DENSITY AS RECEIVED

OAN (spreadsheet) EXAMPLE

~SAMPLE PROPERTIES	ADNCL.KG/M3	769.9	[NUM 5.1] [O] ABSOLUTE DENSITY AFTER CLEANING
~SAMPLE PROPERTIES	API.GRAVITY	52.12	[NUM 4.2] [O] API GRAVITY AT 15 DEGC
~SAMPLE PROPERTIES	TSUL.FRACTION	0.00213	[NUM 2.5] [O] TOTAL SULPHUR MASS
~SAMPLE PROPERTIES	TSUL.GM/KG	35.1	[NUM 5.2] [O] TOTAL SULPHUR
~SAMPLE PROPERTIES	TSALT.KG/M3		[NUM 2.5] [O] TOTAL SALT
~SAMPLE PROPERTIES	RVP.KPAA		[NUM 6.2] [O] REID VAPOUR PRESSURE
~SAMPLE PROPERTIES	CONRD.FRACTION		[NUM 6.2] [O] CARBON RESIDUE CONRADSON FRACTION
~SAMPLE PROPERTIES	RAMBT.FRACTION		[NUM 6.2] [O] CARBON RESIDUE RAMSBOTTOM FRACTION
~SAMPLE PROPERTIES	PPT.USBM		[NUM 4] [O] POUR POINT U.S.B.M. STANDARD
~SAMPLE PROPERTIES	PPT.ASTM	50	[NUM 4] [O] POUR POINT A.S.T.M. STANDARD
~VISCOSITY	UT1.DEGC	25	[NUM 2] [O] VISCOSITY TEMPERATURE POINT 1
~VISCOSITY	UAB1.MPA'S	0.82	[NUM 8.3] [O] ABSOLUTE DYNAMIC VISCOSITY AT POINT 1
~VISCOSITY	UKIN1.MM2/S	1.08	[NUM 8.3] [O] KINEMATIC VISCOSITY AT POINT 1
~VISCOSITY	UT2.DEGC	38	[NUM 2] [O] VISCOSITY TEMPERATURE POINT 2
~VISCOSITY	UAB2.MPA'S	0.7	[NUM 8.3] [O] ABSOLUTE DYNAMIC VISCOSITY AT POINT 2
~VISCOSITY	UKIN2.MM2/S	0.93	[NUM 8.3] [O] KINEMATIC VISCOSITY AT POINT 2
~VISCOSITY	UT3.DEGC	50	[NUM 2] [O] VISCOSITY TEMPERATURE POINT 3
~VISCOSITY	UAB3.MPA'S	0.63	[NUM 8.3] [O] ABSOLUTE DYNAMIC VISCOSITY AT POINT 3
~VISCOSITY	UKIN3.MM2/S	0.84	[NUM 8.3] [O] KINEMATIC VISCOSITY AT POINT 3
~VISCOSITY	UT4.DEGC		[NUM 2] [O] VISCOSITY TEMPERATURE POINT 4
~VISCOSITY	UAB4.MPA'S		[NUM 8.3] [O] ABSOLUTE DYNAMIC VISCOSITY AT POINT 4
~VISCOSITY	UKIN4.MM2/S		[NUM 8.3] [O] KINEMATIC VISCOSITY AT POINT 4
~VISCOSITY	UT5.DEGC		[NUM 2] [O] VISCOSITY TEMPERATURE POINT 5
~VISCOSITY	UAB5.MPA'S		[NUM 8.3] [O] ABSOLUTE DYNAMIC VISCOSITY AT POINT 5
~VISCOSITY	UKIN5.MM2/S		[NUM 8.3] [O] KINEMATIC VISCOSITY AT POINT 5
~VISCOSITY	UT6.DEGC		[NUM 2] [O] VISCOSITY TEMPERATURE POINT 6
~VISCOSITY	UAB6.MPA'S		[NUM 8.3] [O] ABSOLUTE DYNAMIC VISCOSITY AT POINT 6
~VISCOSITY	UKIN6.MM2/S		[NUM 8.3] [O] KINEMATIC VISCOSITY AT POINT 6
~DISTILLATION	IBP.DEGC		[NUM 4.1] [O] INITIAL BOILING POINT TEMPERATURE
~DISTILLATION	DVL1.FRACTION	0.05	[NUM 2.2] [O] VOLUME FRACTION POINT 1
~DISTILLATION	DTP1.DEGC	118.2	[NUM 4.1] [O] VOLUME TEMPERATURE POINT 1
~DISTILLATION	DVL2.FRACTION	0.1	[NUM 2.2] [O] VOLUME FRACTION POINT 2
~DISTILLATION	DTP2.DEGC	130.3	[NUM 4.1] [O] VOLUME TEMPERATURE POINT 2
~DISTILLATION	DVL3.FRACTION	0.15	[NUM 2.2] [O] VOLUME FRACTION POINT 3
~DISTILLATION	DTP3.DEGC	139.4	[NUM 4.1] [O] VOLUME TEMPERATURE POINT 3
~DISTILLATION	DVL4.FRACTION	0.2	[NUM 2.2] [O] VOLUME FRACTION POINT 4
~DISTILLATION	DTP4.DEGC	146.5	[NUM 4.1] [O] VOLUME TEMPERATURE POINT 4
~DISTILLATION	DVL5.FRACTION	0.25	[NUM 2.2] [O] VOLUME FRACTION POINT 5
~DISTILLATION	DTP5.DEGC	152.6	[NUM 4.1] [O] VOLUME TEMPERATURE POINT 5
~DISTILLATION	DVL6.FRACTION	0.3	[NUM 2.2] [O] VOLUME FRACTION POINT 6
~DISTILLATION	DTP6.DEGC	159.6	[NUM 4.1] [O] VOLUME TEMPERATURE POINT 6
~DISTILLATION	DVL7.FRACTION	0.35	[NUM 2.2] [O] VOLUME FRACTION POINT 7
~DISTILLATION	DTP7.DEGC	164.7	[NUM 4.1] [O] VOLUME TEMPERATURE POINT 7

OAN (spreadsheet) EXAMPLE

~DISTILLATION	DVL8.FRACTION	0.4	[NUM 2.2] [O] VOLUME FRACTION POINT 8
~DISTILLATION	DTP8.DEGC	169.8	[NUM 4.1] [O] VOLUME TEMPERATURE POINT 8
~DISTILLATION	DVL9.FRACTION	0.45	[NUM 2.2] [O] VOLUME FRACTION POINT 9
~DISTILLATION	DTP9.DEGC	174.8	[NUM 4.1] [O] VOLUME TEMPERATURE POINT 9
~DISTILLATION	DVL10.FRACTION	0.5	[NUM 2.2] [O] VOLUME FRACTION POINT 10
~DISTILLATION	DTP10.DEGC	179.9	[NUM 4.1] [O] VOLUME TEMPERATURE POINT 10
~DISTILLATION	DVL11.FRACTION	0.55	[NUM 2.2] [O] VOLUME FRACTION POINT 11
~DISTILLATION	DTP11.DEGC	184.9	[NUM 4.1] [O] VOLUME TEMPERATURE POINT 11
~DISTILLATION	DVL12.FRACTION	0.6	[NUM 2.2] [O] VOLUME FRACTION POINT 12
~DISTILLATION	DTP12.DEGC	190.1	[NUM 4.1] [O] VOLUME TEMPERATURE POINT 12
~DISTILLATION	DVL13.FRACTION	0.65	[NUM 2.2] [O] VOLUME FRACTION POINT 13
~DISTILLATION	DTP13.DEGC	195.1	[NUM 4.1] [O] VOLUME TEMPERATURE POINT 13
~DISTILLATION	DVL14.FRACTION	0.7	[NUM 2.2] [O] VOLUME FRACTION POINT 14
~DISTILLATION	DTP14.DEGC	200.1	[NUM 4.1] [O] VOLUME TEMPERATURE POINT 14
~DISTILLATION	DVL15.FRACTION	0.75	[NUM 2.2] [O] VOLUME FRACTION POINT 15
~DISTILLATION	DTP15.DEGC	207.2	[NUM 4.1] [O] VOLUME TEMPERATURE POINT 15
~DISTILLATION	DVL16.FRACTION	0.8	[NUM 2.2] [O] VOLUME FRACTION POINT 16
~DISTILLATION	DTP16.DEGC	217.3	[NUM 4.1] [O] VOLUME TEMPERATURE POINT 16
~DISTILLATION	DVL17.FRACTION	0.85	[NUM 2.2] [O] VOLUME FRACTION POINT 17
~DISTILLATION	DTP17.DEGC	225.4	[NUM 4.1] [O] VOLUME TEMPERATURE POINT 17
~DISTILLATION	DVL18.FRACTION	0.9	[NUM 2.2] [O] VOLUME FRACTION POINT 18
~DISTILLATION	DTP18.DEGC	240.5	[NUM 4.1] [O] VOLUME TEMPERATURE POINT 18
~DISTILLATION	DVL19.FRACTION	0.95	[NUM 2.2] [O] VOLUME FRACTION POINT 19
~DISTILLATION	DTP19.DEGC	262.8	[NUM 4.1] [O] VOLUME TEMPERATURE POINT 19
~DISTILLATION	DVL20.FRACTION	1.00	[NUM 2.2] [O] VOLUME FRACTION POINT 20
~DISTILLATION	DTP20.DEGC		[NUM 4.1] [O] VOLUME TEMPERATURE POINT 20
~DISTILLATION	FBP.DEGC	265.8	[NUM 4.1] [O] FINAL BOILING POINT TEMPERATURE
~DISTILLATION	CRKBP.DEGC		[NUM 4.1] [O] CRACKED BOILING POINT TEMPERATURE
#PAS-OAN created by EUB staff - for example purposes ONLY - data gathered from various reports.			
~METHODS AND SUMMARIES	METHD.	astm d-86	[CHAR 20] [O] DISTILLATION METHOD
~METHODS AND SUMMARIES	PBARA.KPAA	89.3	[NUM 4.1] [O] ABSOLUTE BAROMETRIC PRESSURE
~METHODS AND SUMMARIES	TROOM.DEGC	21.1	[NUM 4.1] [O] ROOM TEMPERATURE
~METHODS AND SUMMARIES	DVLNP.FRACTION	0.71	[NUM 2.2] [O] NAPHTHA SUMMARY VOLUME FRACTION
~METHODS AND SUMMARIES	DVLKR.FRACTION	0.98	[NUM 2.2] [O] KEROSENE SUMMARY VOLUME FRACTION
~METHODS AND SUMMARIES	DVLGO.FRACTION		[NUM 2.2] [O] LIGHT GAS/OIL SUMMARY VOLUME FRACTION
~METHODS AND SUMMARIES	DVLRC.FRACTION	0.98	[NUM 2.2] [O] RECOVERED SUMMARY VOLUME FRACTION
~METHODS AND SUMMARIES	DVLRS.FRACTION	0.01	[NUM 2.2] [O] RESIDUE SUMMARY VOLUME FRACTION
~METHODS AND SUMMARIES	DVLLS.FRACTION	0.01	[NUM 2.2] [O] LOSS SUMMARY VOLUME FRACTION
~METHODS AND SUMMARIES	CFACT.	11.9	[NUM 4.1] [O] CHARACTERIZATION FACTOR
~METHODS AND SUMMARIES	GCOM.	Example for PAS purpose ONLY	[CHAR 240] [O] GENERAL COMMENT
# Example for PAS purpose ONLY - EUB - some data gathered from other tests to provide fuller example			

PRD (spreadsheet) EXAMPLE

#			
# The definition [NUM X.Y] indicates that there are X digits to the left of the decimal			
# and Y digits to the right of the decimal (EG: [NUM 3.2] = 123.45)			
#			
~VERSION	TYPE.	PAS-PRD	DIGITAL DATA - PRODUCTION TEST DATA
~VERSION	UNIT.	M	UNITS FLAG
~VERSION	VERS.	2.1	CIM/EUB DIGITAL WELL TEST DATA
~WELL INFORMATION	COMP.	CANRISE	[CHAR 60] [M] COMPANY NAME
~WELL INFORMATION	UWI.	100/16-36-048-13W5/2	[9XX/99-99-999-99W9/9] [M] UNIQUE WELL ID
~WELL INFORMATION	WLIC.	121087	[CHAR 9] [M] EUB WELL LICENSE NUMBER
~WELL INFORMATION	FORM.	SHUNDA	[CHAR 20] [M] FORMATION NAME
~WELL INFORMATION	WSFL.	2	[NUM 2] [M] WELL FLUID STATUS AT TEST DATE
~WELL INFORMATION	WSMO.	10	[NUM 2] [M] WELL MODE STATUS AT TEST DATE
~WELL INFORMATION	WSTY.	1	[NUM 2] [M] WELL TYPE STATUS AT TEST DATE
~WELL INFORMATION	WTYP.	V	[CHAR 1] [M] WELL TYPE INDICATOR
~WELL INFORMATION	WHDP.M		[NUM 5.5] [O] WHIPSTOCK DEPTH (TVD)
~WELL INFORMATION	HLID.MM	152.4	[NUM 3.1] [MO] HOLE DIAMETER
~WELL INFORMATION	OHCI.	N	[CHAR 1] [M] OPEN HOLE COMPLETION INDICATOR
~WELL INFORMATION	CSLD.M	3050.0	[NUM 5.5] [MO] CASING LANDED AT DEPTH (TVD)
~WELL INFORMATION	LINR.	Y	[CHAR 1] [MO] CASING LINER INDICATOR
~WELL INFORMATION	TULD.M		[NUM 5.5] [O] TUBING LANDED AT DEPTH (TVD)
~WELL INFORMATION	PCID.MM	127.0	[NUM 3.1] [O] PRODUCTION CASING INSIDE DIAMETER
~WELL INFORMATION	PTOD.MM		[NUM 3.1] [O] PRODUCTION TUBING OUTSIDE DIAMETER
~WELL INFORMATION	TUBS.MM		[NUM 3.1] [O] PRODUCTION TUBING INSIDE DIAMETER
~WELL INFORMATION	PKDT.M		[NUM 5.5] [O] PACKER SETTING DEPTH (TVD)
~WELL INFORMATION	AFLO.		[CHAR 1] [O] TUBING OR ANNULAR FLOW
# NOTE: DUE to timing and available electronic data -			
# Various "Optional" elements may be missing (WTC G-52 purpose only)			
# Whenever possible - please include as many of these as possible			
# to make the "raw data" and future independent interpretations more valuable			
~TEST DATA	TTNC.	SINGLE POINT	[CHAR 20] [O] AOF TEST TYPE NAME
~TEST DATA	SERCO.	0G1AF	[CHAR 5] [M] SERVICE COMPANY CODE
~TEST DATA	TTOPL.M	2619.5	[NUM 5.5] [M] TEST/PRODUCING INTERVAL TOP (LOG)
~TEST DATA	TBASL.M	2623.0	[NUM 5.5] [M] TEST/PRODUCING INTERVAL BASE (LOG)
~TEST DATA	TTOPT.M	2619.5	[NUM 5.5] [M] TEST/PRODUCING INTERVAL TOP (TVD)
~TEST DATA	TBAST.M	2623.0	[NUM 5.5] [M] TEST/PRODUCING INTERVAL BASE (TVD)
~TEST DATA	STRT.DAY/HR	1997 07 15 0700	[YYYY MM DD HHHH] [O] TEST START DATE/TIME
~TEST DATA	TISI.DAY/HR	1997 07 23 1812	[YYYY MM DD HHHH] [M] DATE/TIME WELL SHUT-IN
~TEST DATA	FTDT.DAY/HR	1997 08 06 1149	[YYYY MM DD HHHH] [M] TEST FINAL DATE/TIME
~TEST DATA	TSUR.DEGC		[NUM 3.2] [O] SURFACE TEMPERATURE
~TEST DATA	TUPS.KPAA		[NUM 6.2] [O] INITIAL TUBING PRESSURE
~TEST DATA	CSPS.KPAA		[NUM 6.2] [O] INITIAL CASING PRESSURE
~TEST DATA	FTUPS.KPAA		[NUM 6.2] [O] FINAL TUBING PRESSURE
~TEST DATA	FCSPS.KPAA		[NUM 6.2] [O] FINAL CASING PRESSURE
~TEST DATA	VGAS.E3M3	267.92	[NUM 9.4] [M] GAS PRODUCED IN CLEANUP/TEST
~TEST DATA	GPTO.	F	[CHAR 1] [M] METHOD OF TEST PRODUCTION
~TEST DATA	GPTH.	T	[CHAR 1] [M] DESCRIPTION OF GAS PRODUCTION
~TEST DATA	FDUR.HR	99.0	[NUM 5.5] [O] FLOW DURATION
~TEST DATA	HEAT.GJ		[NUM 7.3] [O] CHOKE HEATER SIZE/CAPACITY
~TEST DATA	QFGAS.E3M3/D	63.0	[NUM 9.4] [M] FINAL GAS PRODUCTION RATE
~TEST DATA	QFCON.M3/D	9.7	[NUM 9.4] [O] FINAL CONDENSATE PRODUCTION RATE
~TEST DATA	QRGAS.E3M3/D	66.0	[NUM 9.4] [O] RECOMBINED GAS PRODUCTION RATE
~TEST DATA	QFWTR.M3/D	4.5	[NUM 9.4] [O] FINAL WATER PRODUCTION RATE
~TEST DATA	GEQV.E3M3/D	3.0	[NUM 9.4] [O] GAS EQUIVALENT OF CONDENSATE
~TEST DATA	QDAT.DAY	1997 07 23	[YYYY MM DD] [M] DATE OF PRODUCTION RATES
~TEST DATA	TRES.DEGC	93.8	[NUM 3.2] [M] RESERVOIR TEMPERATURE
~TEST DATA	BLOW.HR		[NUM 5.5] [O] WELL BLOW DURATION
~TEST DATA	SPRAY.HR		[NUM 5.5] [O] TIME FOR SPRAY TO CLEAR
~TEST DATA	DOIL.KG/M3		[NUM 4.2] [O] OIL DENSITY
~METER GAS (1)	TYPE.	C	[CHAR 1] [M] METERING DEVICE TYPE INDICATOR

PRD (spreadsheet) EXAMPLE

~METER GAS (1)	SGG.	0.762	[NUM 1.3] [M] GAS SPECIFIC GRAVITY					
~METER GAS (1)	N2.FRACTION	0.0026	[NUM 1.4] [M] NITROGEN					
~METER GAS (1)	CO2.FRACTION	0.037	[NUM 1.4] [M] CARBON DIOXIDE					
~METER GAS (1)	H2S.FRACTION	0.0016	[NUM 1.4] [M] HYDROGEN SULFIDE					
~METER GAS (1)	PATM.KPA	90.0	[NUM 6.2] [M] ATMOSPHERIC PRESSURE					
~METER GAS (1)	TAP.		[CHAR 1] [MO] TAP TYPE INDICATOR					
~METER GAS (1)	TAPL.		[CHAR 1] [MO] TAP LOCATION INDICATOR					
~METER GAS (1)	RSIZ.MM	77.93	[NUM 5.3] [MO] RUN/PROVER SIZE					
~METER GAS (1)	TCON.E3M3/REV		[NUM 5.5] [MO] TURBINE DEVICE CONSTANT					
~METER GAS (1)	ICON.		[NUM 5.5] [MO] PITIOT TUBE DEVICE CONSTANT					
~METER GAS (1)	VGASP.E3M3	1345.32	[NUM 9.4] [M] PREVIOUS GAS PRODUCED					
~METER GAS (1)	DNAM.		[CHAR 80] [O] DEVICE NAME					
~DATA TABLE - GAS (1)	TIME.DAY/HR/SS		[YYYY MM DD HHHH:SS] [M] REAL TIME					
~DATA TABLE - GAS (1)	CHOK.MM		[NUM 5.3] [MO] CHOKE SIZE					
~DATA TABLE - GAS (1)	ORIG.MM		[NUM 5.3] [MO] ORIFICE SIZE					
~DATA TABLE - GAS (1)	STAG.KPAA		[NUM 6.2] [MO] STATIC PRESSURE					
~DATA TABLE - GAS (1)	DIFG.KPA		[NUM 6.2] [MO] PRESSURE DIFFERENTIAL					
~DATA TABLE - GAS (1)	TMPG.DEGC		[NUM 3.2] [MO] TEMPERATURE					
~DATA TABLE - GAS (1)	TRBG.REV		[NUM 5.3] [MO] TURBINE METER READING					
~DTGAS (1)	TIME	CHOK	ORIG	STAG	DIFG	TMPG	TRBG	
~DTGAS (1)	1997 07 15 1300:00	6.35		50.0		1.01		
~DTGAS (1)	1997 07 15 1330:00	6.35		55.0		1.01		
~DTGAS (1)	1997 07 15 1400:00	6.35		55.0		2.5		
~DTGAS (1)	1997 07 15 1430:00	6.35		57.0		3.5		
~DTGAS (1)	1997 07 15 1500:00	6.35		58.0		3.6		
~DTGAS (1)	1997 07 15 1530:00	6.35		60.0		5.5		
~DTGAS (1)	1997 07 15 1600:00	6.35		70.0	8.0	6.6		
~DTGAS (1)	1997 07 15 1630:00	6.35		72.0		8.5		
~DTGAS (1)	1997 07 15 1700:00	6.35		75.0		9.5		
~DTGAS (1)	1997 07 15 1730:00	6.35		85.0		10.1		
~DTGAS (1)	1997 07 15 1800:00	6.35		115.0	21.4	15.1		
~DTGAS (1)	1997 07 15 1830:00	6.35		120.0		22.5		
~DTGAS (1)	1997 07 15 1900:00	6.35		121.3		22.7		
~DTGAS (1)	1997 07 15 1930:00	6.35		122.0		23.5		
~DTGAS (1)	1997 07 15 2000:00	6.35		123.6		24.2		
~DTGAS (1)	1997 07 19 0800:00	6.35		124.5		26.2		
~DTGAS (1)	1997 07 19 1500:00	6.35		200.0		26.2		
****** NOTE *** DATA TABLE (DTGAS) has been condensed for G-52 printing purposes ONLY.... Table is wider...***								
~DTGAS (1)	1997 07 19 1505:00	6.35		210.0		26.3		
~DTGAS (1)	1997 07 19 1515:00	6.35		220.0		29.1		
~DTGAS (1)	1997 07 19 1530:00	6.35		230.0		29.2		
~DTGAS (1)	1997 07 19 1545:00	6.35		240.0		29.3		
~DTGAS (1)	1997 07 19 1600:00	6.35		250.0		29.4		
~DTGAS (1)	1997 07 19 1630:00	6.35		260.0		30.1		
~DTGAS (1)	1997 07 19 1700:00	6.35		270.0		30.2		
~DTGAS (1)	1997 07 19 1730:00	6.35		280.0		30.3		
~DTGAS (1)	1997 07 19 1800:00	6.35		290.0		32.5		
~DTGAS (1)	1997 07 19 1830:00	5.56		300.0		33.3		
~DTGAS (1)	1997 07 19 1900:00	5.56		310.0		34.5		
~DTGAS (1)	1997 07 19 1930:00	5.56		320.0		35.5		
~DTGAS (1)	1997 07 19 2000:00	5.56		827.0	19.9	36.6		
~DTGAS (1)	1997 07 19 2030:00	5.56		827.0	23.9	37.7		
~DTGAS (1)	1997 07 19 2100:00	5.56		827.0	23.9	40.4		
~DTGAS (1)	1997 07 19 2130:00	5.56		862.0	19.9	41.1		
~DTGAS (1)	1997 07 19 2200:00	5.56		621.0	19.9	42.2		
~DTGAS (1)	1997 07 19 2230:00	5.56		1448.0	41.8	42.2		
~DTGAS (1)	1997 07 19 2235:00	5.56		1448.0		40.4		
~DTGAS (1)	1997 07 19 2300:00	5.56		1448.0	41.8	36.6		
~DTGAS (1)	1997 07 19 2330:00	5.56		1586.0	44.8	30.3		
~DTGAS (1)	1997 07 20 0000:00	5.56		1553.0	53.7	29.9		

PRD (spreadsheet) EXAMPLE

~DTGAS (1)	1997 07 20 0030:00	5.56		1665.0	55.8	28.8		
~DTGAS (1)	1997 07 20 0100:00	5.56		1257.0	39.8	26.6		
~DTGAS (1)	1997 07 20 0130:00	5.56		1241.0	36.4	26.6		
~DTGAS (1)	1997 01 20 0200:00	5.56		1448.0	33.9	26.6		
~DTGAS (1)	1997 01 20 0230:00	5.56		1241.0	25.9	26.6		
~DTGAS (1)	1997 01 20 0300:00	5.56		1655.0	28.9	26.6		
~DTGAS (1)	1997 01 20 0330:00	5.56		1448.0	24.9	26.6		
~DTGAS (1)	1997 01 20 0400:00	5.56		1551.0	39.8	26.6		
~DTGAS (1)	1997 01 20 0430:00	5.56		1448.0	31.9	26.6		
~DTGAS (1)	1997 01 20 0500:00	5.56		1586.0	30.9	24.4		
~DTGAS (1)	1997 01 20 0530:00	5.56		1482.0	49.8	22.2		
~DTGAS (1)	1997 01 20 0600:00	5.56		1551.0	56.8	20.1		
~DTGAS (1)	1997 01 20 0630:00	5.56		1551.0	51.8	22.1		
~DTGAS (1)	1997 01 20 0700:00	5.56		1344.0	30.9	22.1		
~DTGAS (1)	1997 01 20 0730:00	5.56		1344.0	39.8	28.8		
~DTGAS (1)	1997 01 20 0800:00	5.56		1103.0	36.4	28.8		
~METER FLUID (1)	FLDT.	W	[CHAR 1] [M] FLUID TYPE INDICATOR					
~METER FLUID (1)	TYPE.	C	[CHAR 1] [M] METERING DEVICE TYPE INDICATOR					
~METER FLUID (1)	TAP.		[CHAR 1] [MO] TAP TYPE INDICATOR					
~METER FLUID (1)	TAPL.		[CHAR 1] [MO] TAP LOCATION INDICATOR					
~METER FLUID (1)	RSIZ.MM	103.8	[NUM 5.3] [MO] RUN/PROVER SIZE					
~METER FLUID (1)	TCON.M3/REV		[NUM 5.5] [MO] TURBINE DEVICE CONSTANT					
~METER FLUID (1)	ICON.		[NUM 5.5] [MO] PITIOT TUBE DEVICE CONSTANT					
~METER FLUID (1)	VFLP.M3		[NUM 9.4] [O] PREVIOUS FLUID PRODUCED					
~METER FLUID (1)	V2FLP.M3		[NUM 9.4] [O] PREVIOUS SECONDARY FLUID PRODUCED					
~METER FLUID (1)	TMEA.	I	[CHAR 1] [MO] TANK MEASUREMENT INDICATOR					
~METER FLUID (1)	TEQU.		[CHAR 240] [MO] TANK EQUATION					
~METER FLUID (1)	DNAM.		[CHAR 80] [O] DEVICE NAME					
~METER FLUID (1)	API.		[NUM 2.2] [MO] API					
~DATA TABLE - FLUID (1)	TIME.DAY/HR/SS		[YYYY MM DD HHHH:SS] [M] REAL TIME					
~DATA TABLE - FLUID (1)	CHOK.MM		[NUM 5.3] [MO] CHOKE SIZE					
~DATA TABLE - FLUID (1)	GNLF.MM		[NUM 5.3] [MO] TANK GAIN LEVEL					
~DATA TABLE - FLUID (1)	GNVF.M3		[NUM 5.3] [MO] TANK GAIN VOLUME					
~DATA TABLE - FLUID (1)	TNKF.DEGC		[NUM 3.2] [O] TANK TEMPERATURE					
~DATA TABLE - FLUID (1)	TRBF.REV		[NUM 5.3] [MO] TURBINE METER READING					
~DATA TABLE - FLUID (1)	ORIF.MM		[NUM 5.3] [MO] ORIFICE SIZE					
~DATA TABLE - FLUID (1)	STAF.KPAA		[NUM 6.2] [MO] STATIC PRESSURE					
~DATA TABLE - FLUID (1)	DIFF.KPA		[NUM 6.2] [MO] PRESSURE DIFFERENTIAL					
~DATA TABLE - FLUID (1)	TMPF.DEGC		[NUM 3.2] [MO] TEMPERATURE					
~DATA TABLE - FLUID (1)	BG.FRACTION		[NUM 2.2] [O] SHRINKAGE FACTOR					
~DATA TABLE - FLUID (1)	API.		[NUM 2.2] [O] API					
~DATA TABLE - FLUID (1)	BSW.FRACTION		[NUM 1.3] [O] BASIC SAND AND WATER PERCENTAGE					
~DATA TABLE - FLUID (1)	FLDR.M3/D		[NUM 9.4] [M] FLUID RATE					
~DATA TABLE - FLUID (1)	FL2R.M3/D		[NUM 9.4] [O] SECONDARY FLUID RATE					
~DTFLD (1)	TIME	CHOK	GNLF	GNVF	TNK	TRBF	ORIF	
~DTFLD (1)	1997 07 15 1300:00	5.3						
~DTFLD (1)	1997 07 15 1330:00	5.3						
~DTFLD (1)	1997 07 15 1400:00	5.3						
~DTFLD (1)	1997 07 15 1430:00	5.3						
~DTFLD (1)	1997 07 15 1500:00	5.3						
~DTFLD (1)	1997 07 15 1530:00	5.3						
~DTFLD (1)	1997 07 15 1600:00	5.3						
~DTFLD (1)	1997 07 15 1630:00	5.3						
~DTFLD (1)	1997 07 15 1700:00	5.3					57.2	
~DTFLD (1)	1997 07 15 1730:00	5.3						
~DTFLD (1)	1997 07 15 1800:00	5.3					57.2	
~DTFLD (1)	1997 07 15 1830:00	5.3						
****** NOTE *** DATA TABLE (DTFLD) has been condensed for G-52 printing purposes ONLY....Table is wider...***								
~DTFLD (1)	1997 07 15 1900:00	5.3						
~DTFLD (1)	1997 07 15 1930:00	5.3						

PRD (spreadsheet) EXAMPLE

~DTFLD (1)	1997 07 15 2000:00	5.3						
~DTFLD (1)	1997 07 19 0800:00	5.3						
~DTFLD (1)	1997 07 19 1500:00	5.3						
~DTFLD (1)	1997 07 19 1505:00	5.3						
~DTFLD (1)	1997 07 19 1515:00	5.3						
~DTFLD (1)	1997 07 19 1530:00	5.3						
~DTFLD (1)	1997 07 19 1545:00	5.3						
~DTFLD (1)	1997 07 19 1600:00	5.3						
~DTFLD (1)	1997 07 19 1630:00	5.3						
~DTFLD (1)	1997 07 19 1700:00	5.3						
~DTFLD (1)	1997 07 19 1730:00	5.3						
~DTFLD (1)	1997 07 19 1800:00	5.3						
~DTFLD (1)	1997 07 19 1830:00	5.3						
~DTFLD (1)	1997 07 19 1900:00	5.3						
~DTFLD (1)	1997 07 19 1930:00	5.3						
~DTFLD (1)	1997 07 19 2000:00	5.3					28.6	
~DTFLD (1)	1997 07 19 2030:00	5.3					28.6	
~DTFLD (1)	1997 07 19 2100:00	5.3					28.6	
~DTFLD (1)	1997 07 19 2130:00	5.3					28.6	
~DTFLD (1)	1997 07 19 2200:00	5.3					28.6	
~DTFLD (1)	1997 07 19 2230:00	5.3					28.6	
~DTFLD (1)	1997 07 19 2235:00	5.3						
~DTFLD (1)	1997 07 19 2300:00	5.3					28.6	
~DTFLD (1)	1997 07 19 2330:00	5.3					28.6	
~DTFLD (1)	1997 07 20 0000:00	5.3					28.6	
~DTFLD (1)	1997 07 20 0030:00	5.3					28.6	
~DTFLD (1)	1997 07 20 0100:00	5.3					28.6	
~DTFLD (1)	1997 07 20 0130:00	5.3					28.6	
~DTFLD (1)	1997 01 20 0200:00	5.3					28.6	
~DTFLD (1)	1997 01 20 0230:00	5.3					28.6	
~DTFLD (1)	1997 01 20 0300:00	5.3					28.6	
~DTFLD (1)	1997 01 20 0330:00	5.3					28.6	
~DTFLD (1)	1997 01 20 0400:00	5.3					28.6	
~DTFLD (1)	1997 01 20 0430:00	5.3					28.6	
~DTFLD (1)	1997 01 20 0500:00	5.3					28.6	
~DTFLD (1)	1997 01 20 0530:00	5.3					28.6	
~DTFLD (1)	1997 01 20 0600:00	5.3					28.6	
~DTFLD (1)	1997 01 20 0630:00	5.3					28.6	
~DTFLD (1)	1997 01 20 0700:00	5.3					28.6	
~DTFLD (1)	1997 01 20 0730:00	5.3					28.6	
~DTFLD (1)	1997 01 20 0800:00	5.3					28.6	
~DATA TABLE - SUMMARY	TIME.DAY/HR/SS		[YYYY MM DD HHHH:SS] [M] REAL TIME					
~DATA TABLE - SUMMARY	TWH.DEGC		[NUM 3.2] [O] WELLHEAD TEMPERATURE					
~DATA TABLE - SUMMARY	TUPS.KPAA		[NUM 6.2] [O] TUBING PRESSURE					
~DATA TABLE - SUMMARY	TTUB.DEGC		[NUM 3.2] [O] TUBING TEMPERATURE					
~DATA TABLE - SUMMARY	CSPS.KPAA		[NUM 6.2] [O] CASING PRESSURE					
~DATA TABLE - SUMMARY	TCAS.DEGC		[NUM 3.2] [O] CASING TEMPERATURE					
~DATA TABLE - SUMMARY	QTGAS.E3M3/D		[NUM 9.4] [O] TOTAL GAS ALL METERS					
~DATA TABLE - SUMMARY	QTOIL.M3/D		[NUM 9.4] [O] TOTAL OIL RATE ALL METERS					
~DATA TABLE - SUMMARY	QTCON.M3/D		[NUM 9.4] [O] TOTAL CONDENSATE RATE ALL METERS					
~DATA TABLE - SUMMARY	QTWTR.M3/D		[NUM 9.4] [O] TOTAL WATER RATE ALL METERS					
~DATA TABLE - SUMMARY	VTGAS.E3M3		[NUM 9.4] [O] TOTAL GAS VOLUME ALL METERS					
~DATA TABLE - SUMMARY	VTOIL.M3		[NUM 9.4] [O] TOTAL OIL VOLUME ALL METERS					
~DATA TABLE - SUMMARY	VTCON.M3		[NUM 9.4] [O] TOTAL CONDENSATE VOLUME ALL METERS					
~DATA TABLE - SUMMARY	VTWTR.M3		[NUM 9.4] [O] TOTAL WATER VOLUME ALL METERS					
~DATA TABLE - SUMMARY	SALT.PPM		[NUM 6.2] [O] SALINITY					
~DATA TABLE - SUMMARY	PH.		[NUM 2.2] [O] PH					
~DATA TABLE - SUMMARY	COMM.		[CHAR 240] [O] TEST COMMENTS					
~DTSUM	TIME	TWH	TUPS	TTUB	CSP	TCAS	QTGA	COMM
~DTSUM	1997 07 15 1300:00	15.1						OPENED WELL ON 6.35 MM CHOKE

PRD (spreadsheet) EXAMPLE

~DTSUM	1997 07 15 1330:00	18.1					
~DTSUM	1997 07 15 1400:00	18.1					
~DTSUM	1997 07 15 1430:00	18.1					
~DTSUM	1997 07 15 1500:00	16.1					
~DTSUM	1997 07 15 1530:00	17.1					
~DTSUM	1997 07 15 1600:00	17.1				26.7	
~DTSUM	1997 07 15 1630:00	17.1					METER IN SERVICE ON 57.15 MM ORIFICE PLATE
~DTSUM	1997 07 15 1700:00	17.1				26.2	H2S = 300 PPM
~DTSUM	1997 07 15 1730:00	17.1					
~DTSUM	1997 07 15 1800:00	17.1				49.6	
~DTSUM	1997 07 15 1830:00	17.1					SHIP 5.55 M3 TO TANK TRUCK
~DTSUM	1997 07 15 1900:00	17.1					ESTIMATED PRODUCTION DURING SHIPPING = 0.37 M3
~DTSUM	1997 07 15 1930:00	16.1					
~DTSUM	1997 07 15 2000:00	16.1					SHUT IN WELL / LIQUID PRODUCTION IS LOAD FLUID
****** NOTE *** DATA TABLE (DTSUM) has been condensed for G-52 printing purposes ONLY....Table is wider...***							
~DTSUM	1997 07 19 0800:00	16.1					ARRIVE ON LOCATION / RIG OUT LOW STAGE
~DTSUM	1997 07 19 1500:00	16.1					P TEST LINES TO CHOKE / RECORD OPENING PRESSURES
~DTSUM	1997 07 19 1505:00	16.1					OPEN WELL ON 6.35 MM CHOKE/LIFT FLUID
~DTSUM	1997 07 19 1515:00	16.1					FLUID TO SURFACE / ADJUST CHOKE TO HANDLE FLUID
~DTSUM	1997 07 19 1530:00	16.1					
~DTSUM	1997 07 19 1545:00	17.1					
~DTSUM	1997 07 19 1600:00	18.1					SHUT IN WELL / LIGHT LINE HEATER / HYDRATES AT CHOKE
~DTSUM	1997 07 19 1630:00	18.1					OPEN WELL TO FLOW - VARABLE CHOKE SIZES TO LIFT FLUID
~DTSUM	1997 07 19 1700:00	18.1					
~DTSUM	1997 07 19 1730:00	16.1					
~DTSUM	1997 07 19 1800:00	15.1					
~DTSUM	1997 07 19 1830:00	13.1					INCREASE CHOKE TO 5.56 MM/POSSIBLE HYDRATE DOWNHOLE
~DTSUM	1997 07 19 1900:00	15.1					
~DTSUM	1997 07 19 1930:00	15.1					
~DTSUM	1997 07 19 2000:00	15.1				21.6	
~DTSUM	1997 07 19 2030:00	14.1				23.6	
~DTSUM	1997 07 19 2100:00	12.1				23.5	
~DTSUM	1997 07 19 2130:00	12.1				21.7	
~DTSUM	1997 07 19 2200:00	12.1				18.8	
~DTSUM	1997 07 19 2230:00	12.1				40.2	ADJUST TEMP CONTROL / REPLACE BATTERY IN METER CLOCK
~DTSUM	1997 07 19 2235:00	12.1					CHANGE OUT METER PENS
~DTSUM	1997 07 19 2300:00	12.1				40.7	
~DTSUM	1997 07 19 2330:00	12.1				44.5	
~DTSUM	1997 07 20 0000:00	12.1				52.7	ADJUST BACK PRESSURE
~DTSUM	1997 07 20 0030:00	12.1				50.9	
~DTSUM	1997 07 20 0100:00	11.1				37.8	ADJUST TEMP CONTROL ON LINE HEATER
~DTSUM	1997 07 20 0130:00	11.1				35.8	
~DTSUM	1997 01 20 0200:00	11.1				37.2	DRAW DOWN - 33.7%
~DTSUM	1997 01 20 0230:00	11.1				30.2	
~DTSUM	1997 01 20 0300:00	11.1				36.6	DRAWDOWN - 32.07%
~DTSUM	1997 01 20 0330:00	11.1				31.9	
~DTSUM	1997 01 20 0400:00	11.1				41.8	DRAWDOWN - 32.07%
~DTSUM	1997 01 20 0430:00	11.1				36.1	
~DTSUM	1997 01 20 0500:00	11.1				37.3	DRAWDOWN - 32.07%
~DTSUM	1997 01 20 0530:00	12.1				46.1	
~DTSUM	1997 01 20 0600:00	12.1				50.5	DRAWDOWN - 34.24%
~DTSUM	1997 01 20 0630:00	12.1				48.1	
~DTSUM	1997 01 20 0700:00	12.1				34.5	DRAWDOWN - 34.78%
~DTSUM	1997 01 20 0730:00	14.1				38.8	
~DTSUM	1997 01 20 0800:00	14.1				33.8	DRAWDOWN - 30.71%
#Test PAS-PRD example created by EUB staff. Use for Reservoir model with caution							

SG (spreadsheet) EXAMPLE

#			
# The definition [NUM X.Y] indicates that there are X digits to the left of the decimal			
# and Y digits to the right of the decimal (EG: [NUM 3.2] = 123.45)			
#			
~VERSION	TYPE.	PAS-SG	DIGITAL DATA - GAUGE STATIC GRADIENT TEST
~VERSION	UNIT.	M	UNITS FLAG
~VERSION	VERS.	2.1	CIM/EUB DIGITAL WELL TEST DATA
~WELL INFORMATION	COMP.	New Century Petroleum Corporation	[CHAR 60] [M] COMPANY NAME
~WELL INFORMATION	UWI.	100/02-23-015-19w4/0	[9XX/99-99-999-99W9/9] [M] UNIQUE WELL ID
~WELL INFORMATION	WLIC.	189303	[CHAR 9] [M] EUB WELL LICENSE NUMBER
~WELL INFORMATION	FORM.	Glauconite	[CHAR 20] [M] FORMATION NAME
~WELL INFORMATION	WSFL.	1	[NUM 2] [M] WELL FLUID STATUS AT TEST DATE
~WELL INFORMATION	WSMO.	7	[NUM 2] [M] WELL MODE STATUS AT TEST DATE
~WELL INFORMATION	WSTY.	0	[NUM 2] [M] WELL TYPE STATUS AT TEST DATE
~WELL INFORMATION	WTYP.	V	[CHAR 1] [M] WELL TYPE INDICATOR
~WELL INFORMATION	WHDP.M		[NUM 5.5] [O] WHIPSTOCK DEPTH (TVD)
~WELL INFORMATION	HLID.MM	200	[NUM 3.1] [MO] HOLE DIAMETER
~WELL INFORMATION	OHCI.	N	[CHAR 1] [M] OPEN HOLE COMPLETION INDICATOR
~WELL INFORMATION	CSLD.M	1214	[NUM 5.5] [MO] CASING LANDED AT DEPTH (TVD)
~WELL INFORMATION	LINR.	N	[CHAR 1] [MO] CASING LINER INDICATOR
~WELL INFORMATION	TULD.M	1155	[NUM 5.5] [O] TUBING LANDED AT DEPTH (TVD)
~WELL INFORMATION	PCID.MM	139.7	[NUM 3.1] [O] PRODUCTION CASING INSIDE DIAMETER
~WELL INFORMATION	PTOD.MM		[NUM 3.1] [O] PRODUCTION TUBING OUTSIDE DIAMETER
~WELL INFORMATION	TUBS.MM	73	[NUM 3.1] [O] PRODUCTION TUBING INSIDE DIAMETER
~WELL INFORMATION	PKDT.M		[NUM 5.5] [O] PACKER SETTING DEPTH (TVD)
~WELL INFORMATION	AFLO.	T	[CHAR 1] [O] TUBING OR ANNULAR FLOW
# NOTE: DUE to timing and available electronic data -			
# Various "Optional" elements may be missing (WTC G-52 purpose only)			
# Whenever possible - please include as many of these as possible			
# to make the "raw data" and future independent interpretations more valuable			
~TEST DATA	PRPS.	Y	[CHAR 1] [M] TEST PURPOSE
~TEST DATA	TTYP.	3	[NUM 2] [M] TEST TYPE CODE
~TEST DATA	TTNC.	Static Gradient	[CHAR 20] [O] TEST TYPE NAME
~TEST DATA	SERCO.	ALPIN	[CHAR 5] [M] SERVICE COMPANY CODE
~TEST DATA	TTOPL.M	1160.5	[NUM 5.5] [M] TEST/PRODUCING INTERVAL TOP (LOG)
~TEST DATA	TBASL.M	1164	[NUM 5.5] [M] TEST/PRODUCING INTERVAL BASE (LOG)
~TEST DATA	TTOPT.M	1160.5	[NUM 5.5] [M] TEST/PRODUCING INTERVAL TOP (TVD)
~TEST DATA	TBAST.M	1164	[NUM 5.5] [M] TEST/PRODUCING INTERVAL BASE (TVD)
~TEST DATA	STRT.DAY/HR	1996 08 19 0816	[YYYY MM DD HHHH] [O] TEST START DATE/TIME
~TEST DATA	TISI.DAY/HR	1996 08 18 1130	[YYYY MM DD HHHH] [M] DATE/TIME WELL SHUT-IN
~TEST DATA	FTDT.DAY/HR	1996 08 19 1008	[YYYY MM DD HHHH] [M] TEST FINAL DATA/TIME
~TEST DATA	TSUR.DEGC	18.3	[NUM 3.2] [O] SURFACE TEMPERATURE
~TEST DATA	TUPS.KPAA	1792	[NUM 6.2] [M] INITIAL TUBING PRESSURE
~TEST DATA	CSPS.KPAA	3035	[NUM 6.2] [M] INITIAL CASING PRESSURE
~TEST DATA	FTUPS.KPAA	1792	[NUM 6.2] [O] FINAL TUBING PRESSURE
~TEST DATA	FCSPS.KPAA	3035	[NUM 6.2] [O] FINAL CASING PRESSURE
~TEST DATA	QGAS.E3M3/D	0	[NUM 9.4] [O] GAS PRODUCTION RATE PRIOR TO TEST
~TEST DATA	QOIL.M3/D	0	[NUM 9.4] [O] OIL PRODUCTION RATE PRIOR TO TEST
~TEST DATA	QWTR.M3/D	0	[NUM 9.4] [O] WATER PRODUCTION RATE PRIOR TO TEST
~TEST DATA	QDAT.DAY		[YYYY MM DD] [O] DATE OF PRODUCTION RATES
~RESULTS - SUMMARY	GSER.	450-top	[CHAR 20] [M] GAUGE SERIAL NUMBER USED IN SUMMARY
~RESULTS - SUMMARY	SDGA.M	1156.66	[NUM 5.5] [M] REPRESENTATIVE STOP DEPTH (TVD)
~RESULTS - SUMMARY	GRSD.KPA/M	10.513	[NUM 2.3] [M] REPRESENTATIVE PRESSURE GRADIENT
~RESULTS - SUMMARY	PRGA.KPAA	6697.99	[NUM 6.2] [M] PRESSURE AT STOP DEPTH
~RESULTS - SUMMARY	PRGC.	(Inputted to WTC via EUB staff - Nov/98	[CHAR 50] [O] COMMENT
~RESULTS - SUMMARY	TRES.DEGC	37.63	[NUM 3.2] [M] RESERVOIR TEMPERATURE
~RESULTS - SUMMARY	LLV.M	1124	[NUM 5.5] [O] LIQUID LEVEL (TVD)
~DATA TABLE - GRADIENT SUMMARY	TCUM.HR	1.56	[NUM 5.5] [M] GAUGE CUMULATIVE TIME
~DATA TABLE - GRADIENT SUMMARY	SDGA.M	1156.66	[NUM 5.5] [M] STOP DEPTH (TVD)
~DATA TABLE - GRADIENT SUMMARY	PRGA.KPAA	6697.99	[NUM 6.2] [M] STOP PRESSURE

SG (spreadsheet) EXAMPLE

~DATA TABLE - GRADIENT SUMMARY	GRSD.KPA/M	10.513	[NUM 2.3] [M] CALCULATED GRADIENT			
~DTSUM	TCUM	SDGA	PRGA	GRSD		
~DTSUM	0.25	0	1751.69	0		
~DTSUM	0.3	199	1797.2	0.2287		
~DTSUM	0.5	399	1832.23	0.1751		
~DTSUM	0.6	599	2296.11	2.1394		
~DTSUM	0.74	799	3614.19	6.5904		
~DTSUM	0.8	999	5286.67	8.3624		
~DTSUM	0.9	1096	6088.19	8.2072		
~DTSUM	1.01	1126.66	6382.6	9.8137		
~DTSUM	1.15	1156.66	6697.99	10.513		
~HEADER DATA - GAUGE (1)	GSER.	450-top	[CHAR 20] [M] GAUGE SERIAL NUMBER			
~HEADER DATA - GAUGE (1)	GTYP.	Electronic	[CHAR 30] [M] GAUGE TYPE			
~HEADER DATA - GAUGE (1)	GMAN.	Alpine	[CHAR 60] [M] GAUGE MANUFACTURER			
~HEADER DATA - GAUGE (1)	GRNG.KPAA	14000	[NUM 6.2] [M] MAXIMUM RECORDER RANGE			
~HEADER DATA - GAUGE (1)	GCAL.DAY	1996 04 25	[YYYY MM DD] [M] DATE OF LAST CALIBRATION			
~HEADER DATA - GAUGE (1)	GRES.		[NUM 1.5] [O] PUBLISHED RESOLUTION % OF FULL SCALE			
~HEADER DATA - GAUGE (1)	GACC.	0.03	[NUM 1.5] [O] PUBLISHED ACCURACY % OF FULL SCALE			
~HEADER DATA - GAUGE (1)	GSTD.DAY/HR/SS	1996 08 19 0816:58	[YYYY MM DD HHHH:SS] [O] GAUGE START DATE/TIME			
~HEADER DATA - GAUGE (1)	GSPD.DAY/HR/SS	1996 08 19 1008:36	[YYYY MM DD HHHH:SS] [O] GAUGE STOP DATE/TIME			
~HEADER DATA - GAUGE (1)	SDGA.M	1156.66	[NUM 5.5] [M] GAUGE RUN DEPTH (TVD)			
~HEADER DATA - GAUGE (1)	GONB.DAY/HR/SS	1996 08 19 0927:56	[YYYY MM DD HHHH:SS] [M] DATE/TIME GAUGE ON BOTTOM			
~HEADER DATA - GAUGE (1)	GOFB.DAY/HR/SS	1996 08 19 0952:56	[YYYY MM DD HHHH:SS] [M] DATE/TIME GAUGE OFF BOTTOM			
~DATA TABLE - GAUGE (1)	TIME.DAY/HR/SS		[YYYY MM DD HHHH:SS] [M] REAL TIME			
~DATA TABLE - GAUGE (1)	TCUM.HR		[NUM 5.5] [M] GAUGE CUMULATIVE TIME			
~DATA TABLE - GAUGE (1)	SDGA.M		[NUM 5.5] [O] GAUGE DEPTH (TVD)			
~DATA TABLE - GAUGE (1)	PRGA.KPAA		[NUM 6.2] [M] GAUGE PRESSURE			
~DATA TABLE - GAUGE (1)	TGA.DEGC		[NUM 3.2] [M] GAUGE TEMPERATURE			
~DATA TABLE - GAUGE (1)	GCOM.		[CHAR 240] [O] GAUGE/EVENTS COMMENT			
~DTG(1)	TIME	TCUM	SDGA	PRGA	TGA	GCOM
#NOTE—TIME & TCUM are not exactly correct (manually entered by EUB staff - Dec 1st 1998)						
~DTG(1)	1996 08 19 0816:58	0.01	0	0	-17.72	Flag Point A - Turn on ALPINE recorders
~DTG(1)	1996 08 19 0816:58	0.02	0	1750.94	18.27	Flag Point B - Print every 100 samples
~DTG(1)	1996 08 19 0816:58	0.03	0	1751.17	18.3	
~DTG(1)	1996 08 19 0816:58	0.04	0	1751.17	18.33	
~DTG(1)	1996 08 19 0816:58	0.05	0	1751.4	18.37	
~DTG(1)	1996 08 19 0816:58	0.06	0	1751.69	18.39	
~DTG(1)	1996 08 19 0816:58	0.07	199	1797.43	16.4	Flag Point C
~DTG(1)	1996 08 19 0816:58	0.08	199	1797.2	16.35	
~DTG(1)	1996 08 19 0816:58	0.09	199	1797.2	16.3	
~DTG(1)	1996 08 19 0816:58	0.1	199	1797.2	16.26	
~DTG(1)	1996 08 19 0816:58	0.11	199	1797.2	16.21	
~DTG(1)	1996 08 19 0816:58	0.12	399	1831.9	17.42	Flag Point D
~DTG(1)	1996 08 19 0816:58	0.13	399	1831.9	17.49	
~DTG(1)	1996 08 19 0816:58	0.14	399	1832.13	17.56	
~DTG(1)	1996 08 19 0816:58	0.15	399	1832.13	17.64	
~DTG(1)	1996 08 19 0816:58	0.16	399	1832.23	17.71	
~DTG(1)	1996 08 19 0816:58	0.17	599	2296.11	20.83	Flag Point E
~DTG(1)	1996 08 19 0816:58	0.18	599	2296.11	21.03	
~DTG(1)	1996 08 19 0816:58	0.19	599	2296.11	21.22	
~DTG(1)	1996 08 19 0816:58	0.2	599	2296.11	21.4	
~DTG(1)	1996 08 19 0816:58	0.21	799	2296.11	21.56	
~DTG(1)	1996 08 19 0816:58	0.22	799	3612.8	25.85	Flag Point F
~DTG(1)	1996 08 19 0816:58	0.23	799	3613.03	26.06	
~DTG(1)	1996 08 19 0816:58	0.24	799	3613.5	26.24	
~DTG(1)	1996 08 19 0816:58	0.25	799	3613.96	26.41	
~DTG(1)	1996 08 19 0816:58	0.26	799	3614.19	26.57	
~DTG(1)	1996 08 19 0816:58	0.27	999	5285.21	31.08	Flag Point G
~DTG(1)	1996 08 19 0816:58	0.28	999	5285.28	31.26	
~DTG(1)	1996 08 19 0816:58	0.29	999	5285.52	31.43	

SG (spreadsheet) EXAMPLE

~DTG(1)	1996 08 19 0816:58		0.3	999	5286.21	31.58	
~DTG(1)	1996 08 19 0816:58		0.31	999	5286.67	31.72	
~DTG(1)	1996 08 19 0816:58		0.32	1096.66	6087.04	34.28	Flag Point H
~DTG(1)	1996 08 19 0816:58		0.33	1096.66	6087.5	34.4	
~DTG(1)	1996 08 19 0816:58		0.34	1096.66	6087.73	34.51	
~DTG(1)	1996 08 19 0816:58		0.35	1096.66	6087.96	34.61	
~DTG(1)	1996 08 19 0816:58		0.36	1096.66	6088.19	34.7	
~DTG(1)	1996 08 19 0816:58		0.37	1126.66	6381.45	36.22	Flag Point I
~DTG(1)	1996 08 19 0816:58		0.38	1126.66	6381.68	36.31	
~DTG(1)	1996 08 19 0816:58		0.39	1126.66	6382.14	36.38	
~DTG(1)	1996 08 19 0816:58		0.4	1126.66	6382.14	36.45	
~DTG(1)	1996 08 19 0816:58		0.41	1126.66	6382.6	36.51	
~DTG(1)	1996 08 19 0816:58		0.42	1156.66	6682.57	37.04	Flag Point J (mpp)
~DTG(1)	1996 08 19 0816:58		0.43	1156.66	6685.26	37.37	
~DTG(1)	1996 08 19 0816:58		0.44	1156.66	6687.35	37.5	
~DTG(1)	1996 08 19 0816:58		0.45	1156.66	6689.05	37.56	
~DTG(1)	1996 08 19 0816:58		0.46	1156.66	6691.05	37.58	
~DTG(1)	1996 08 19 0816:58		0.47	1156.66	6692.75	37.6	
~DTG(1)	1996 08 19 0816:58		0.48	1156.66	6694.05	37.61	
~DTG(1)	1996 08 19 0816:58		0.49	1156.66	6695.3	37.62	
~DTG(1)	1996 08 19 0816:58		0.5	1156.66	6697.06	37.62	
~DTG(1)	1996 08 19 0816:58		0.51	0	6697.99	37.63	Flag Point K
~DTG(1)	1996 08 19 0816:58		0.52	0	1794.28	23.09	Flag Point L - recorders @ Surface - end of Static Gradient
~DTG(1)	1996 08 19 0816:58		0.53	0	0	20.32	End of File
~HEADER DATA - GAUGE (2)	GSER.	432-BTM		[CHAR 20] [M] GAUGE SERIAL NUMBER			
~HEADER DATA - GAUGE (2)	GTYP.	Electronic		[CHAR 30] [M] GAUGE TYPE			
~HEADER DATA - GAUGE (2)	GMAN.	Alpine		[CHAR 60] [M] GAUGE MANUFACTURER			
~HEADER DATA - GAUGE (2)	GRNG.KPAA		14000	[NUM 6.2] [M] MAXIMUM RECORDER RANGE			
~HEADER DATA - GAUGE (2)	GCAL.DAY	1996 03 09		[YYYY MM DD] [M] DATE OF LAST CALIBRATION			
~HEADER DATA - GAUGE (2)	GRES.			[NUM 1.5] [O] PUBLISHED RESOLUTION % OF FULL SCALE			
~HEADER DATA - GAUGE (2)	GACC.		0.03	[NUM 1.5] [O] PUBLISHED ACCURACY % OF FULL SCALE			
~HEADER DATA - GAUGE (2)	GSTD.DAY/HR/SS	1996 08 19 0817:04		[YYYY MM DD HHHH:SS] [O] GAUGE START DATE/TIME			
~HEADER DATA - GAUGE (2)	GSPD.DAY/HR/SS	1996 08 19 1008:22		[YYYY MM DD HHHH:SS] [O] GAUGE STOP DATE/TIME			
~HEADER DATA - GAUGE (2)	SDGA.M		1157.66	[NUM 5.5] [M] GAUGE RUN DEPTH (TVD)			
~HEADER DATA - GAUGE (2)	GONB.DAY/HR/SS	1996 08 19 0928:02		[YYYY MM DD HHHH:SS] [M] DATE/TIME GAUGE ON BOTTOM			
~HEADER DATA - GAUGE (2)	GOFB.DAY/HR/SS	1996 08 19 0953:02		[YYYY MM DD HHHH:SS] [M] DATE/TIME GAUGE OFF BOTTOM			
~DATA TABLE - GAUGE (2)	TIME.DAY/HR/SS			[YYYY MM DD HHHH:SS] [M] REAL TIME			
~DATA TABLE - GAUGE (2)	TCUM.HR			[NUM 5.5] [M] GAUGE CUMULATIVE TIME			
~DATA TABLE - GAUGE (2)	SDGA.M			[NUM 5.5] [O] GAUGE DEPTH (TVD)			
~DATA TABLE - GAUGE (2)	PRGA.KPAA			[NUM 6.2] [M] GAUGE PRESSURE			
~DATA TABLE - GAUGE (2)	TGA.DEGC			[NUM 3.2] [M] GAUGE TEMPERATURE			
~DATA TABLE - GAUGE (2)	GCOM.			[CHAR 240] [O] GAUGE/EVENTS COMMENT			
~DTG(2)	TIME	TCUM		SDGA	PRGA	TGA	GCOM
~DTG(2)	1996 08 19 0953:02		1.56	1157.66	6710.94	38.85	LMP
#For EUB WTC example purposes - only 1 (last) point from gauge 2 inputted							

TRG (spreadsheet) EXAMPLE

#			
# The definition [NUM X.Y] indicates that there are X digits to the left of the decimal			
# and Y digits to the right of the decimal (EG: [NUM 3.2] = 123.45)			
#			
~VERSION	TYPE.	PAS-TRG	DIGITAL DATA - GAUGE TRANSIENT TEST
~VERSION	UNIT.	M	UNITS FLAG
~VERSION	VERS.	2.1	CIM/EUB DIGITAL WELL TEST DATA
~WELL INFORMATION	COMP.	Canadian 88 Energy Corp	[CHAR 60] [M] COMPANY NAME
~WELL INFORMATION	UWI.	100/16-16-014-18w4/0	[9XX/99-99-999-99W9/9] [M] UNIQUE WELL ID
~WELL INFORMATION	WLIC.	203581	[CHAR 9] [M] EUB WELL LICENSE NUMBER
~WELL INFORMATION	FORM.	Glauconite	[CHAR 20] [M] FORMATION NAME
~WELL INFORMATION	WSFL.	1	[NUM 2] [M] WELL FLUID STATUS AT TEST DATE
~WELL INFORMATION	WSMO.	10	[NUM 2] [M] WELL MODE STATUS AT TEST DATE
~WELL INFORMATION	WSTY.	0	[NUM 2] [M] WELL TYPE STATUS AT TEST DATE
~WELL INFORMATION	WTYP.	V	[CHAR 1] [M] WELL TYPE INDICATOR
~WELL INFORMATION	WHDP.M		[NUM 5.5] [O] WHIPSTOCK DEPTH (TVD)
~WELL INFORMATION	HLID.MM		[NUM 3.1] [MO] HOLE DIAMETER
~WELL INFORMATION	OHCI.	N	[CHAR 1] [M] OPEN HOLE COMPLETION INDICATOR
~WELL INFORMATION	CSLD.M		[NUM 5.5] [MO] CASING LANDED AT DEPTH (TVD)
~WELL INFORMATION	LINR.		[CHAR 1] [MO] CASING LINER INDICATOR
~WELL INFORMATION	TULD.M		[NUM 5.5] [O] TUBING LANDED AT DEPTH (TVD)
~WELL INFORMATION	PCID.MM	125.7	[NUM 3.1] [O] PRODUCTION CASING INSIDE DIAMETER
~WELL INFORMATION	PTOD.MM	73.1	[NUM 3.1] [O] PRODUCTION TUBING OUTSIDE DIAMETER
~WELL INFORMATION	TUBS.MM	66.0	[NUM 3.1] [O] PRODUCTION TUBING INSIDE DIAMETER
~WELL INFORMATION	PKDT.M		[NUM 5.5] [O] PACKER SETTING DEPTH (TVD)
~WELL INFORMATION	AFLO.		[CHAR 1] [O] TUBING OR ANNULAR FLOW
# NOTE: DUE to timing and available electronic data -			
# Various "Optional" elements may be missing (WTC G-52 purpose only)			
# Whenever possible - please include as many of these as possible			
# to make the "raw data" and future independent interpretations more valuable			
~TEST DATA	PRPS.	y	[CHAR 1] [M] TEST PURPOSE
~TEST DATA	TTYP.	4	[NUM 2] [M] TEST TYPE CODE
~TEST DATA	TTNC.	BUILD-UP	[CHAR 20] [O] TEST TYPE NAME
~TEST DATA	SERCO.	INNOV	[CHAR 5] [M] SERVICE COMPANY CODE
~TEST DATA	TTOPL.M	1102.0	[NUM 5.5] [M] TEST/PRODUCING INTERVAL TOP (LOG)
~TEST DATA	TBASL.M	1110.0	[NUM 5.5] [M] TEST/PRODUCING INTERVAL BASE (LOG)
~TEST DATA	TTOPT.M	1102.0	[NUM 5.5] [M] TEST/PRODUCING INTERVAL TOP (TVD)
~TEST DATA	TBAST.M	1110.0	[NUM 5.5] [M] TEST/PRODUCING INTERVAL BASE (TVD)
~TEST DATA	STRT.DAY/HR		[YYYY MM DD HHHH] [O] TEST START DATE/TIME
~TEST DATA	TISI.DAY/HR	1998 04 01 0733	[YYYY MM DD HHHH] [M] DATE/TIME WELL SHUT-IN
~TEST DATA	FTDT.DAY/HR	1998 04 10 1040	[YYYY MM DD HHHH] [M] TEST FINAL DATE/TIME
~TEST DATA	TSUR.DEGC		[NUM 3.2] [O] SURFACE TEMPERATURE
~TEST DATA	TUPS.KPAA	2316.0	[NUM 6.2] [O] INITIAL TUBING PRESSURE

TRG (spreadsheet) EXAMPLE

~TEST DATA	CSPS.KPAA	4240.0	[NUM 6.2] [O] INITIAL CASING PRESSURE			
~TEST DATA	FTUPS.KPAA	8274.0	[NUM 6.2] [O] FINAL TUBING PRESSURE			
~TEST DATA	FCSPS.KPAA	8536.0	[NUM 6.2] [O] FINAL CASING PRESSURE			
~TEST DATA	QGAS.E3M3/D	2.25	[NUM 9.4] [O] GAS PRODUCTION RATE PRIOR TO TEST			
~TEST DATA	QOIL.M3/D	25.0	[NUM 9.4] [O] OIL PRODUCTION RATE PRIOR TO TEST			
~TEST DATA	QWTR.M3/D	0.01	[NUM 9.4] [O] WATER PRODUCTION RATE PRIOR TO TEST			
~TEST DATA	QDAT.DAY	1997 09 16	[YYYY MM DD] [O] DATE OF PRODUCTION RATES			
~RESULTS - SUMMARY	GSER.	20471	[CHAR 20] [M] GAUGE SERIAL NUMBER USED IN SUMMARY			
~RESULTS - SUMMARY	SDGA.M	1087.5	[NUM 5.5] [M] REPRESENTATIVE STOP DEPTH (TVD)			
~RESULTS - SUMMARY	GRSD.KPA/M	8.33	[NUM 2.3] [M] REPRESENTATIVE PRESSURE GRADIENT			
~RESULTS - SUMMARY	PRGA.KPAA	10549.98	[NUM 6.2] [M] PRESSURE AT STOP DEPTH			
~RESULTS - SUMMARY	PMPP.KPAA	10649.94	[NUM 6.2] [M] REPRESENTATIVE BOTTOM HOLE PRESSURE			
~RESULTS - SUMMARY	PRGC.		[CHAR 50] [O] COMMENT			
~RESULTS - SUMMARY	TRES.DEGC	31.44	[NUM 3.2] [M] RESERVOIR TEMPERATURE			
~RESULTS - SUMMARY	LLV.M		[NUM 5.5] [O] LIQUID LEVEL (TVD)			
~HEADER DATA - GAUGE (1)	GSER.	20471	[CHAR 20] [M] GAUGE SERIAL NUMBER			
~HEADER DATA - GAUGE (1)	GTYP.	Electronic	[CHAR 30] [M] GAUGE TYPE			
~HEADER DATA - GAUGE (1)	GMAN.	Starburst	[CHAR 60] [M] GAUGE MANUFACTURER			
~HEADER DATA - GAUGE (1)	GRNG.KPAA	24132.0	[NUM 6.2] [M] MAXIMUM RECORDER RANGE			
~HEADER DATA - GAUGE (1)	GCAL.DAY	1998 03 24	[YYYY MM DD] [M] DATE OF LAST CALIBRATION			
~HEADER DATA - GAUGE (1)	GRES.	0.2	[NUM 1.5] [O] PUBLISHED RESOLUTION % OF FULL SCALE			
~HEADER DATA - GAUGE (1)	GACC.	0.03	[NUM 1.5] [O] PUBLISHED ACCURACY % OF FULL SCALE			
~HEADER DATA - GAUGE (1)	GSTD.DAY/HR/SS	1998 03 30 1948:00	[YYYY MM DD HHHH:SS] [O] GAUGE START DATE/TIME			
~HEADER DATA - GAUGE (1)	GSPD.DAY/HR/SS	1998 04 09 2016:10	[YYYY MM DD HHHH:SS] [O] GAUGE STOP DATE/TIME			
~HEADER DATA - GAUGE (1)	SDGA.M	1087.5	[NUM 5.5] [M] GAUGE RUN DEPTH (TVD)			
~HEADER DATA - GAUGE (1)	GONB.DAY/HR/SS	1998 03 30 1948:00	[YYYY MM DD HHHH:SS] [M] DATE/TIME GAUGE ON BOTTOM			
~HEADER DATA - GAUGE (1)	GOFB.DAY/HR/SS	1998 04 10 0644:00	[YYYY MM DD HHHH:SS] [M] DATE/TIME GAUGE OFF BOTTOM			
~DATA TABLE - GAUGE (1)	TIME.DAY/HR/SS		[YYYY MM DD HHHH:SS] [M] REAL TIME			
~DATA TABLE - GAUGE (1)	TCUM.HR		[NUM 5.5] [M] GAUGE CUMULATIVE TIME			
~DATA TABLE - GAUGE (1)	SDGA.M		[NUM 5.5] [O] GAUGE DEPTH (TVD)			
~DATA TABLE - GAUGE (1)	PRGA.KPAA		[NUM 6.2] [M] GAUGE PRESSURE			
~DATA TABLE - GAUGE (1)	TGA.DEGC		[NUM 3.2] [M] GAUGE TEMPERATURE			
~DATA TABLE - GAUGE (1)	GCOM.		[CHAR 240] [O] GAUGE/EVENTS COMMENT			
~DTG (1)	TIME	TCUM	SDGA	PRGA	TGA	GCOM
~DTG (1)	1998 03 30 1948:00	0.0	1087.5	9725.19	22.81	
NOTE DATA TABLE (DTG1) has been compressed for G-52 printing purposes ONLY						
~DTG (1)	1998 03 30 1950:00	0.02	1087.5	9698.52	22.81	
~DTG (1)	1998 03 30 1952:00	0.04	1087.5	9730.03	24.5	
~DTG (1)	1998 03 30 1954:00	0.06	1087.5	9742.7	26.59	
~DTG (1)	1998 03 30 1956:00	0.08	1087.5	9752.13	27.41	
~DTG (1)	1998 03 30 1958:00	0.1	1087.5	9760.54	28.05	
~DTG (1)	1998 03 30 2004:00	0.16	1087.5	9780.06	29.49	
~DTG (1)	1998 03 30 2004:10	0.161	1087.5	9779.96	29.52	

TRG (spreadsheet) EXAMPLE

~DTG (1)	1998 03 30 2004:20	0.00	1087.5	9781.27	29.55	Open Well
~DTG (1)	1998 03 30 2004:30	0.001	1087.5	9780.27	29.58	
~DTG (1)	1998 03 30 2004:40	0.002	1087.5	9773.03	29.62	
~DTG (1)	1998 03 30 2004:50	0.003	1087.5	9756.47	29.65	
~DTG (1)	1998 03 30 2005:00	0.004	1087.5	9734.15	29.68	
~DTG (1)	1998 04 01 0733:20	35.29	1087.5	8140.24	31.92	
~DTG (1)	1998 04 01 0733:30	35.291	1087.5	8140.24	31.92	
~DTG (1)	1998 04 01 0733:40	0.00	1087.5	8140.24	31.92	shut-in
~DTG (1)	1998 04 01 0733:50	0.001	1087.5	8140.24	31.92	
~DTG (1)	1998 04 01 0734:00	0.002	1087.5	8142.21	31.92	
~DTG (1)	1998 04 01 0734:10	0.003	1087.5	8145.41	31.92	
~DTG (1)	1998 04 01 0734:20	0.004	1087.5	8147.0	31.92	
~DTG (1)	1998 04 01 0734:30	0.005	1087.5	8148.41	31.92	
~DTG (1)	1998 04 01 0734:40	0.01	1087.5	8151.7	31.92	
~DTG (1)	1998 04 01 0734:50	0.011	1087.5	8153.95	31.92	
~DTG (1)	1998 04 08 0058:10	161.243	1087.5	10507.85	31.44	
~DTG (1)	1998 04 08 0816:10	168.423	1087.5	10517.17	31.44	
~DTG (1)	1998 04 08 2016:10	180.423	1087.5	10529.86	31.44	
~DTG (1)	1998 04 09 0816:10	192.423	1087.5	10540.5	31.43	
~DTG (1)	1998 04 09 2016:10	204.423	1087.5	10549.98	31.44	recorders off bottom
~HEADER DATA - GAUGE (2)	GSER.	20743	[CHAR 20] [M] GAUGE SERIAL NUMBER			
~HEADER DATA - GAUGE (2)	GTYP.	Electronic	[CHAR 30] [M] GAUGE TYPE			
~HEADER DATA - GAUGE (2)	GMAN.	Starburst	[CHAR 60] [M] GAUGE MANUFACTURER			
~HEADER DATA - GAUGE (2)	GRNG.KPAA	24132.0	[NUM 6.2] [M] MAXIMUM RECORDER RANGE			
~HEADER DATA - GAUGE (2)	GCAL.DAY	1998 03 24	[YYYY MM DD] [M] DATE OF LAST CALIBRATION			
~HEADER DATA - GAUGE (2)	GRES.	0.2	[NUM 1.5] [O] PUBLISHED RESOLUTION % OF FULL SCALE			
~HEADER DATA - GAUGE (2)	GACC.	0.03	[NUM 1.5] [O] PUBLISHED ACCURACY % OF FULL SCALE			
~HEADER DATA - GAUGE (2)	GSTD.DAY/HR/SS		[YYYY MM DD HHHH:SS] [O] GAUGE START DATE/TIME			
~HEADER DATA - GAUGE (2)	GSPD.DAY/HR/SS		[YYYY MM DD HHHH:SS] [O] GAUGE STOP DATE/TIME			
~HEADER DATA - GAUGE (2)	SDGA.M	1092.7	[NUM 5.5] [M] GAUGE RUN DEPTH (TVD)			
~HEADER DATA - GAUGE (2)	GONB.DAY/HR/SS	1998 03 30 1948:00	[YYYY MM DD HHHH:SS] [M] DATE/TIME GAUGE ON BOTTOM			
~HEADER DATA - GAUGE (2)	GOFB.DAY/HR/SS	1998 04 10 0644:00	[YYYY MM DD HHHH:SS] [M] DATE/TIME GAUGE OFF BOTTOM			
~DATA TABLE - GAUGE (2)	TIME.DAY/HR/SS		[YYYY MM DD HHHH:SS] [M] REAL TIME			
~DATA TABLE - GAUGE (2)	TCUM.HR		[NUM 5.5] [M] GAUGE CUMULATIVE TIME			
~DATA TABLE - GAUGE (2)	SDGA.M		[NUM 5.5] [O] GAUGE DEPTH (TVD)			
~DATA TABLE - GAUGE (2)	PRGA.KPAA		[NUM 6.2] [M] GAUGE PRESSURE			
~DATA TABLE - GAUGE (2)	TGA.DEGC		[NUM 3.2] [M] GAUGE TEMPERATURE			
~DATA TABLE - GAUGE (2)	GCOM.		[CHAR 240] [O] GAUGE/EVENTS COMMENT			
~DTG (2)	TIME	TCUM	SDGA	PRGA	TGA	GCOM
~DTG (2)	1998 03 30 2004:20	0.00	1086.2	9773.7	29.13	Open Well
~DTG (2)	1998 04 01 0733:40	0.00	1086.2	8141.17	31.77	Shut-in Well
~DTG (2)	1998 04 09 2016:10	204.423	1086.2	10551.0	31.49	Recorders off-bottom
# DTG (2) gauge data compressed for EUB WTC input (by EUB staff)						

TRG (spreadsheet) EXAMPLE

~ANALYSIS - GENERAL INFORMATION	ADAT.DAY	1998 04 10	[YYYY MM DD] [O] DATE ANALYSIS COMPLETED
~ANALYSIS - GENERAL INFORMATION	ANCO.	Innovare Tech	[CHAR 2O] [O] COMPANY CONDUCTING ANALYSIS
~ANALYSIS - GENERAL INFORMATION	ANAM.		[CHAR 20] [O] ANALYST'S NAME
~ANALYSIS - GENERAL INFORMATION	PHASE.	O	[CHAR 1] [O] DOMINANT PHASE USED IN ANALYSIS
~ANALYSIS - GENERAL INFORMATION	TRET.		[CHAR 20] [O] LAST TREATMENT
~ANALYSIS - GENERAL INFORMATION	DTRET.DAY		[YYYY MM DD] [O] DATE OF LAST TREATMENT
~ANALYSIS - GENERAL INFORMATION	GENC.		[CHAR 240] [O] UNSPECIFIED GENERAL COMMENT
~ANALYSIS - GENERAL INFORMATION	PEXTR.KPAA	11541.47	[NUM 6.2] [MO] REPRESENTATIVE EXTRAPOLATED/FALSE PRESSURE
~ANALYSIS - GENERAL INFORMATION	PAVG.KPAA	11192.79	[NUM 6.2] [MO] REPRESENTATIVE AVERAGE RESERVOIR PRESSURE
~ANALYSIS - INPUT PARAMETERS	SATW.FRACTION	0.22	[NUM 1.2] [O] ASSUMED WATER SATURATION FRACTION
~ANALYSIS - INPUT PARAMETERS	SATG.FRACTION	0.00	[NUM 1.2] [O] ASSUMED GAS SATURATION FRACTION
~ANALYSIS - INPUT PARAMETERS	SATO.FRACTION	0.78	[NUM 1.2] [O] ASSUMED OIL SATURATION FRACTION
~ANALYSIS - INPUT PARAMETERS	HZFL.M		[NUM 5.5] [MO] HORIZONTAL WELL LENGTH IN FORMATION
~ANALYSIS - INPUT PARAMETERS	PAY.M	12.2	[NUM 5.5] [O] VERTICAL HEIGHT OF FORMATION
~ANALYSIS - INPUT PARAMETERS	PORO.FRACTION	0.22	[NUM 1.3] [O] ASSUMED POROSITY FRACTION
~ANALYSIS - INPUT PARAMETERS	GEOC.		[CHAR 240] [O] GEOLOGICAL COMMENTS
~ANALYSIS - FLUID PROPERTIES	PVTP.KPAA		[NUM 6.2] [O] PVT REFERENCE PRESSURE
~ANALYSIS - FLUID PROPERTIES	RDOIL.		[NUM 1.3] [O] OIL RELATIVE DENSITY
~ANALYSIS - FLUID PROPERTIES	RDGAS.		[NUM 1.3] [O] GAS RELATIVE DENSITY
~ANALYSIS - FLUID PROPERTIES	RDWTR.		[NUM 1.3] [O] WATER RELATIVE DENSITY
~ANALYSIS - FLUID PROPERTIES	CT.KPA-1	0.00000752	[NUM 1.8] [O] TOTAL COMPRESSIBILITY
~ANALYSIS - FLUID PROPERTIES	UOIL.MPAS	8.39451	[NUM 4.8] [O] OIL VISCOSITY
~ANALYSIS - FLUID PROPERTIES	UGAS.MPAS	0.027	[NUM 1.8] [O] GAS VISCOSITY
~ANALYSIS - FLUID PROPERTIES	Z.		[NUM 2.2] [O] GAS DEVIATION FACTOR
~ANALYSIS - FLUID PROPERTIES	BO.RM3/M3		[NUM 2.2] [O] OIL FORMATION VOLUME FACTOR
~ANALYSIS - FLUID PROPERTIES	RS.M3/M3	90.0	[NUM 5.2] [O] OIL SOLUTION
~ANALYSIS - FLUID PROPERTIES	PBP.KPAA	32618	[NUM 6.2] [O] OIL BUBBLE POINT PRESSURE
~ANALYSIS - INTERPRETATION (1)	ANUM.	1	[NUM 2] [O] ANALYSIS NUMBER
~ANALYSIS - INTERPRETATION (1)	ANTYP.	BU	[CHAR 2] [O] BUILDUP OR FALLOFF ANALYSIS
~ANALYSIS - INTERPRETATION (1)	TFLO.HR	35.5	[NUM 5.5] [O] FLOW TIME PERIOD BEFORE TRANSIENT
~ANALYSIS - INTERPRETATION (1)	PWF.KPAA	8140.24	[NUM 6.2] [O] SANDFACE FLOWING PRESSURE AT SHUT-IN
~ANALYSIS - INTERPRETATION (1)	TEVN.HR	204.7	[NUM 5.5] [O] DURATION OF BUILDUP OR FALLOFF
~ANALYSIS - INTERPRETATION (1)	MODLC.	Superpostion	[CHAR 240] [O] MODEL USED FOR ANALYSIS COMMENT
~ANALYSIS - INTERPRETATION (1)	PHASC.	Multi-Phase (oil)	[CHAR 240] [O] MULTI OR SINGE PHASE COMMENT
~ANALYSIS - INTERPRETATION (1)	KH.MD		[NUM 6.2] [O] CALCULATED FLOW CAPACITY
~ANALYSIS - INTERPRETATION (1)	KHC.		[CHAR 240] [O] COMMENTS ON KH
~ANALYSIS - INTERPRETATION (1)	STORC.M3/KPA	0.00051327	[NUM 1.9] [O] WELLBORE STORAGE CONSTANT
~ANALYSIS - INTERPRETATION (1)	XF.M		[NUM 4] [O] FRACTURE HALF LENGTH
~ANALYSIS - INTERPRETATION (1)	SKIN.	3.83	[NUM 3.2] [O] CALCULATED SKIN FACTOR
~ANALYSIS - INTERPRETATION (1)	SKINC.		[CHAR 240] [O] COMMENTS ON SKIN
~ANALYSIS - INTERPRETATION (1)	LMP.KPAA	10549.98	[NUM 6.2] [O] LAST MEASURED PRESSURE AT MPP (TVD)
~ANALYSIS - INTERPRETATION (1)	LMPC.		[CHAR 240] [O] SOURCE OF LAST MEASURED PRESSURE
~ANALYSIS - INTERPRETATION (1)	PEXTR.KPAA	11541.47	[NUM 6.2] [O] EXTRAPOLATED/FALSE PRESSURE AT MPP (TVD)

TRG (spreadsheet) EXAMPLE

~ANALYSIS - INTERPRETATION (1)	PAVG.KPAA	11192.79	[NUM 6.2] [O] AVERAGE RESERVOIR PRESSURE AT MPP (TVD)	
~ANALYSIS - INTERPRETATION (1)	PAVGC.		[CHAR 240] [O] METHOD TO CALCULATE AVERAGE PRESSURE	
~ANALYSIS - INTERPRETATION (1)	SHAPC.		[CHAR 240] [O] COMMENT ON RESERVOIR SHAPE	
~ANALYSIS - INTERPRETATION (1)	AREA.HA	64.78	[NUM 5.1] [O] AREAL EXTENT OF RESERVOIR IN HECTARES	
~ANALYSIS - INTERPRETATION (1)	BNDYC.		[CHAR 240] [O] DISCUSSION OF BOUNDARIES COMMENT	
~ANALYSIS - INTERPRETATION (1)	AOFST.E3M3/D	4.27	[NUM 9.4] [O] GAS WELL STABILIZED AOF	
~ANALYSIS - INTERPRETATION (1)	AOFTR.E3M3/D		[NUM 9.4] [O] GAS WELL TRANSIENT AOF	
~ANALYSIS - INTERPRETATION (1)	IPRST.M3/D	61.3	[NUM 9.4] [O] OIL WELL STABILIZED IPR	
~ANALYSIS - INTERPRETATION (1)	IPRTR.M3/D		[NUM 9.4] [O] OIL WELL TRANSIENT IPR	
~ANALYSIS - INTERPRETATION (1)	PTIM.HR	1935.01	[NUM 5.5] [O] PRODUCING TIME	
~ANALYSIS - INTERPRETATION (1)	HTIM.HR		[NUM 5.5] [O] HORNER PRODUCING TIME	

WAN (spreadsheet) EXAMPLE

#			
# The definition [NUM X.Y] indicates that there are X digits to the left of the decimal			
# and Y digits to the right of the decimal (EG: [NUM 3.2] = 123.45)			
#			
~VERSION	TYPE.	PAS-WAN	DIGITAL DATA - WATER ANALYSIS
~VERSION	UNIT.	M	UNITS FLAG
~VERSION	VERS.	2.1	CIM/EUB DIGITAL PRESSURE DATA
~WELL INFORMATION	COMP.	Benson Petroleum Ltd.	[CHAR 60] [M] COMPANY NAME
~WELL INFORMATION	UWI.	100/15-15-048-08W4/2	[9XX/99-99-999-99w9/9] [M] UNIQUE WELL ID
~WELL INFORMATION	WLIC.	192571	[CHAR 9] [M] EUB WELL LICENSE NUMBER
~WELL INFORMATION	FORM.	Belly River	[CHAR 20] [M] FORMATION NAME
~WELL INFORMATION	WSFL.	1	[NUM 2] [M] WELL FLUID STATUS AT TEST DATE
~WELL INFORMATION	WSMO.	11	[NUM 2] [M] WELL MODE STATUS AT TEST DATE
~WELL INFORMATION	WSTY.	0	[NUM 2] [M] WELL TYPE STATUS AT TEST DATE
~WELL INFORMATION	WTYP.	V	[CHAR 1] [M] WELL TYPE INDICATOR
# NOTE: DUE to timing and available electronic data -			
# Various "Optional" elements may be missing (WTC G-52 purpose only)			
# Whenever possible - please include as many of these as possible			
# to make the "raw data" and future independent interpretations more valuable			
~TEST DATA	LABCO.	Core LAB	[CHAR 25] [M] LABORATORY OR SERVICE COMPANY
~TEST DATA	LFNUM.	52136--98-1791	[CHAR 25] [M] LABORATORY FILE NUMBER
~TEST DATA	TTOPL.M	522.1	[NUM 5.5] [M] TEST/PRODUCING INTERVAL TOP (LOG)
~TEST DATA	TBASL.M	531.5	[NUM 5.5] [M] TEST/PRODUCING INTERVAL BASE (LOG)
~TEST DATA	TTOPT.M	522.1	[NUM 5.5] [M] TEST/PRODUCING INTERVAL TOP (TVD)
~TEST DATA	TBAST.M	531.5	[NUM 5.5] [M] TEST/PRODUCING INTERVAL BASE (TVD)
~TEST DATA	SDAT.DAY	1998 08 18	[YYYY MM DD] [M] DATE SAMPLED
~TEST DATA	IDENT.	P436	[CHAR 12] [M] CONTAINER IDENTITY
~TEST DATA	SPNT.	60	[NUM 2] [M] SAMPLE POINT CODE
~TEST DATA	SPNTN.	tank	[CHAR 50] [M] SAMPLE POINT NAME
~TEST DATA	ADAT.DAY	1998 08 19	[YYYY MM DD] [M] DATE ANALYZED
~TEST DATA	ANAM.	MF	[CHAR 20] [O] ANALYST NAME
~TEST DATA	WANC.	Example for PAS purpose ONLY - EUB	[CHAR 50] [O] COMMENT
~CATIONS	NA.MG/L	3559	[NUM 7.2] [O] SODIUM CATION
~CATIONS	NA.FRACTION	0.3217	[NUM 2.4] [O] SODIUM CATION MASS FRACTION
~CATIONS	NA.MEQ/L	154.8	[NUM 7.2] [O] SODIUM CATION CONCENTRATION
~CATIONS	K.MG/L	31	[NUM 7.2] [O] POTASSIUM CATION

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